PRB.21.I.49(N)
1,500

सत्यमेव जयते

GOVERNMENT OF INDIA

MINISTRY OF RAILWAYS

(RAILWAY BOARD)

Report by the Railway Board

ON

INDIAN RAILWAYS

FOR

1948-9

Volume I

PUBLISHED BY THE MANAGER OF PUBLICATIONS, DELHI,
PRINTED BY THE GOVERNMENT OF INDIA PRESS, CALCUTTA, INDIA,
1949

सत्यमेव जयते

GOVERNMENT OF INDIA

MINISTRY OF RAILWAYS

(RAILWAY BOARD)

Report by the Railway Board

ON

INDIAN RAILWAYS

FOR

1948-9

Volume I

PUBLISHED BY THE MANAGER OF PUBLICATIONS, DELHI.
PRINTED BY THE GOVERNMENT OF INDIA PRESS, CALCUTTA, INDIA.
1949

List of Agents in India from whom Government of India Publications are available

ABBOTTABAD—English Book Store.

AGRA—
English Book Depot, Taj Road.
India Army Book Depot, Dayalbagh.
National Book House, Jeomondi.

AHMEDABAD—
Chandra Kant Chiman Lal Vora.
H. L. College of Commerce Co-operative Store, Ltd.
New Order Book Co.

AJMER—Banthiya & Co., Ltd., Station Road.

AKOLA—Bakshi, Mr. M. G.

ALLAHABAD—
Central Book Depot, 44, Johnstonganj.
Kitabistan, 17-A., City Road.
Ram Narain Lal, 1, Bank Road.
Superintendent, Printing and Stationery, U. P.

BANGALORE—Messrs. S. S. Book Emporium, 118, G. H. Extension, Basavangudi P. O.

BAREILLY—Aggarwal Brothers.

BARODA—Hony. General Secretary, Pratap Singha College of Commerce Co-operative Stores, Ltd.

BENARES—Students Friends Booksellers, University Gate.

BHANDARA (C. P.)—S. S. Dhara Shirkar.

BOMBAY—
Co-operator's Book Depot, 9, Bakehouse Lane, Fort.
Lakhani Book Depot, Bombay, 4.
New Book Co., Kitab Mahal, 188-90, Hornby Road.
Popular Book Depot, Grant Road.
Safety Book Shop, Safety First Association of India, Fort.
Superintendent, Govt. Printing & Stationery, Queen's Road.
Taraporevala Sons & Co., Messrs. D. B.
Thacker & Co., Ltd.
Tripathi & Co., Messrs. N. M., Princess Street, Kalbadevi Road.

CALCUTTA—
Book Company.
Chatterjee & Co., 3, Bacharam Chatterjee Lane.
Das Gupta & Co., 54/3, College Street.
Hindu Library, 69-A, Balaram De Street.
Lahiri & Co., Ltd., Messrs. S. K.
Newman & Co., Ltd., Messrs. W.
R. Cambray & Co., Kent House, P 33, Mission Row Extension.
Roy Chowdhury & Co., Messrs. N. M., 72, Harrison Road.
Sarcar & Sons, Messrs. M. C., 15, College Square.
Sarkar & Sons, Ltd., Messrs. S. C., 1/1/1-C, College Square.
Standard Law Book Society, 721-A, Hazra Lane, Rash Behari Avenue P. O.

Thacker, Spink & Co. (1933), Ltd.

CAWNPORE—Advani & Co., The Mall.

CUTTACK—Press Officer, Orissa Secretariat.

DEHRA DUN—Jugal Kishore & Co.

DELHI—
Central Book Depot, Kashmere Gate.
Federal Law Depot, Kashmere Gate.
Frank Brothers, Chandni Chowk.
Imperial Book Depot and Press, Near Jama Masjid (Machhliwalan).
Indian Army Book Depot, Daryaganj.
Jaina & Bros., Messrs. J. M., Mori Gate.
Metropolitan Book Co. Fayzbazar, Delhi.
Oxford Book and Stationery Co.
Young Man & Co. (Regd.), Egerton Road.

DEVGAD BARIA—Joshi, Mr. V. G., News Agent (*via* Piplod).

FEROZEPORE—English Book Depot.

GWALIOR—Jain & Bros., Messrs. M. B., Sarafa Road.

HYDERABAD (DECCAN)—Hyderabad Book Depot.

JAIPUR CITY—
Garg Book Co.
Ramesh Book Depot, Treple Bazar.

JODHPUR—Mr. Dwarkadas Rathi, Booksellers.

JUBBULPORE—The C. P. Circulating Library & Book Depot (Regd.) Cecil East Street.

LUCKNOW—Upper India Publishing House, Ltd., Literature Palace, Aminuddaula Park.

MADRAS—
Higginbothams.
Superintendent, Govt. Press, Mount Road.
Varadachary & Co., Messrs. P.

NAGPUR—
Central Law House, Tilak Road.
Khot & Sons, Messrs. G. G., Sita Buldi, 3rd Modi Lane.
Superintendent, Govt. Printing, Central Provinces.

NEW DELHI—
Bhawnani & Sons, Connaught Place.
Jaina Book Agency, Connaught Place.
Saraswati Book Depot, 15, Lady Hardinge Road.

PATNA—Superintendent, Government Printing, Bihar, P. O. Gulzarbagh

PATNA CITY—
Lakshmi Trading Co., Padri-ki-Haveli.
Raghunath Prasad & Sons.

POONA—
Deccan Bookstall, Fergusson College Road.
Dastane Bros., Home Service, 456, Rawiwar Peth.
International Book Service.

RAJKOT—Mohanlal Dossabhai Shah.

ROORKEE—Proprietor, The Cambridge Book Depot.

SHILLONG—Superintendent, Assam Secretariat Press.

SIALKOT CANTT.—Clifton & Co.

SRINAGAR—Raina News agency

TRICHINOPOLY FORT—Krishnaswami & Co., Messrs. S., Teppakulam.

VELLORE—Venkatasubban, Mr. A., Law Bookseller.

PRINCIPAL STATISTICS OF RAILWAY OPERATIONS DURING 1947-8 and 1948-9

I.—ALL INDIAN RAILWAYS

Items		Classes I, II and III (including E. P. and Assam Railways and N. G. of E. I. Railway)			Indian Government Railways (including E. P. and Assam Railways and N. G. of E. I. Railway)		
		1947-8	**1948-9**		1947-8	**1948-9**	
Gross earnings	(crores) Rs.	183·69	**233·83**		166·23	**214·77**	
Total Working expenses.	(crores) Rs.	*163·94	**183·88**		151·93	**169·63**	
Operating ratio	per cent.	*89·25	**78·64**		91·40	**78·98**	
Number of passengers originating.	(millions)	*1,043·95	**1,180·60**		929·08	**1,061·35**	
Passenger miles	(millions)	*33,649·09	**38,764·99**		30,086·47	**35,128·66**	
Earnings from carriage of passengers.	(crores) Rs.	*73·27	**92·91**		65·10	**83·91**	
Average earnings per passenger mile.	Pies	4·18	**4·60**		4·15	**4·59**	
Freight tons originating.	(millions)	73·46	**82·58**		65·68	**74·42**	
Freight ton miles	(millions)	*20,399·26	**22,748·16**		19,250·99	**21,639·83**	
Earnings from carriage of goods.	(crores) Rs.	*86·34	**112·26**		79·18	**104·18**	
Average earnings per freight ton mile.	Pies	8·13	**9·47**		7·90	**9·24**	
Total train miles	(millions)	157·01	**167·61**		139·68	**150·10**	
Gross earnings per train mile.	Rs.	11·70	**13·96**		11·90	**14·31**	
Working expenses per train mile.	Rs.	*10·44	**10·97**		10·88	**11·30**	
Net earnings per train mile.	Rs.	*1·26	**2·99**		1·02	**3·01**	
Net earnings per mean mile worked.	Rs.	7,989	**14,615**		5,440	**16,933**	

* Revised figures.

II.—INDIAN GOVERNMENT RAILWAYS

(The figures include statistics of worked lines of Indian Government railways but exclude Indian Government portions worked by the Jodhpur and His Exalted Highness the Nizam's State Railways and E. P. and Assam Railways and N.G. of E. I. Railway.)

Items		1938-9 (Pre-war)	1939-40	1944-5	1945-6	**1946-7**	1947-8	**1948-9**	
Gross earnings	(crores) Rs.	73·98	77·63	152·38	160·40	149·45	157·42	**197·52**	
Total Working expenses.	(crores) Rs.	47·49	48·04	99·93	108·10	117·88	142·92	**152·78**	
Operating ratio	Per cent.	64·19	61·88	65·58	67·39	78·88	90·79	**77·35**	
Number of passengers originating.	(millions)	355·26	349·05	597·02	675·39	752·03	902·26	**974·93**	
Passenger miles	(millions)	12,588·13	12,321·12	24,917·30	27,518·55	27,910·13	29,012·57	**31,840·91**	
Earnings from carriage of passengers.	(crores) Rs.	20·41	20·10	49·82	56·45	57·46	62·23	**75·33**	
Average earnings per passenger mile.	Pies	3·11	3·13	3·84	3·94	3·95	4·12	**4·54**	
Freight tons originating.	(millions)	64·91	68·87	69·29	70·72	67·23	63·90	**69·76**	
Freight ton miles	(millions)	17,056·49	18,381·46	21,175·36	21,975·45	20,688·95	18,962·55	**20,714·50**	
Earnings from carriage of goods.	(crores) Rs.	48·52	52·16	77·21	78·81	72.65	75·34	**97·92**	
Average earnings per freight ton mile.	Pies	5·46	5·45	7·00	6·89	6·74	7·63	**9·08**	
Total train miles	(millions)	135·38	137·45	119·00	127·63	134·29	134·70	**137·91**	
Gross earnings per train mile.	Rs.	5·46	5·65	12·81	12·57	11·13	11·69	**14·32**	
Working expenses per train mile.	Rs.	3·51	3·50	8·40	8·47	8·78	10·61	**11·08**	
Net earnings per train mile.	Rs.	1·96	2·15	4·41	4·10	2·35	1·08	**3·24**	
Net earnings per mean mile worked.	Rs.	11,212	12,550	23,030	22,947	13,851	6,256	**19,025**	

INTRODUCTORY NOTE

1. The Railway Board's annual report on Indian Railways is prepared for the financial year, *i.e.*, from 1 April of one year to 31 March of the year following.

Volume I is a narrative report dealing with the various aspects of railway working, such as, general administration, financial results, improvements in, and additions to, rolling-stock, commercial and operating methods, recruiting, training and welfare of staff, and facilities provided for the convenience of the travelling public.

Volume II contains financial and statistical summaries and statements covering the main heads of capital and revenue accounts and all other aspects of railway working.

2. For the information of those who are not conversant with the value of Indian currency and the units thereof, the following details are given :—

(*a*) One *lakh* equals one hundred thousand.

(*b*) One *crore* equals one hundred lakhs.

(*c*) One *anna* equals 1/16th of a rupee.

(*d*) One *pie* equals 1/12th of an anna.

The approximate value in English coinage of a rupee at the present rate of exchange is one shilling and six pence.

3. For statistical purposes, Indian railways systems are classified as follows :—

Class I.—Railways with gross earnings of not less than Rs. 50 lakhs a year.

Class II.—Railways with gross earnings of less than Rs. 50 lakhs a year, but exceeding Rs. 10 lakhs.

Class III.—Railways with gross earnings of not more than Rs. 10 lakhs a year.

A detailed list of the railways in each class will be found in Statement 5 of Volume II of this Report.

4. The comparative figures of Class I Railways for the year 1947-8 quoted in the Report refer to Indian Railways as they stand after partition. Since pre-partition accounts have not been closed owing to the accounts of the North Western and Bengal Assam Railways not being available, and the adjustments necessary in the accounts of the Indian Railways as they now stand cannot, in consequence, be made, the results for 1947-8 are provisional to that extent.

CONTENTS

PARAGRAPH No.		PAGE.
	Introductory Note	ii
	CHAPTER I.—GENERAL	
1.	General features of the year	1
2.	General review of working	1
3.	Railways and the Legislature	3
4.	Standing Finance Committee for Railways	4
5.	Central Advisory Council	4
6.	Local Railway Advisory Committees	5
7.	Amenities for the public	5
8.	Staff	6
9.	Security measures on Railways	7
10.	Publicity and public relations	7
11.	Complaints	8
12.	Damage caused to railways by floods and cyclones	8
13.	Acquisition of Company Railways by Government	10
14.	Railway Rates Tribunal	10
15.	Effect of partition on traffic arrangements—Problems in relation to traffic with Pakistan Railways	10
16.	Implementation of decision for division of rolling stock	11
17.	Effect of partition—absorption of India-opted staff of the old B. A. and N. W. Railways	11
18.	Change in open miles owing to partition—handing over of Jodhpur-Hyderabad Section to Pakistan	12
19.	Loss of man-days as a result of strikes	12
	CHAPTER II.—FINANCIAL RESULTS	
20.	Monsoon conditions and agricultural situation 1948-9	13
21.	Trade Review	14
	A.—FINANCIAL RESULTS OF INDIAN GOVERNMENT RAILWAYS (INCLUDING WORKED LINES)	
22.	Financial results of working	14
23.	Traffic receipts	14
24.	Working expenses	15
25.	Losses and gains	15
26.	Railway Betterment Fund	16
27.	Revision of Railway Separation Convention	16
	B.—GENERAL RESULTS OF WORKING OF ALL INDIAN RAILWAYS	
28.	Analysis of earnings	16
29.	Passenger earnings	16
30.	Goods earnings	16
31.	Measures relating to statistics and statistical organization	17
	CHAPTER III.—NEW CONSTRUCTIONS AND ENGINEERING WORKS	
32.	Capital Expenditure	18
33.	Mileage of lines opened or sanctioned in 1948-9	19
34.	Lines under construction during 1948-9	19
35.	New surveys	20
36.	Lines closed during 1948-9	20
37.	Engineering works	20
38.	Open line improvements	20
39.	Important works sanctioned	21
40.	Bridge strengthening and protection programme	22
41.	Permanent way renewals and welding of rail joints	23

Paragraph No.		Page.
	CHAPTER III.—NEW CONSTRUCTIONS AND ENGINEERING WORKS—*contd.*	
42.	Locomotive Manufacturing Works Project	23
43.	Wireless communication on railways	24
44.	Improvement to line Telecommunication on Railways	24
	CHAPTER IV.—TRANSPORTATION	
	A.—Operating	
45.	Operating—General	26
46.	Transport of coal	27
47.	Movement of certain commodities by special trains	27
48.	Volume of traffic handled	28
49.	Train miles	28
50.	Shunting miles	29
51.	Passenger trains	29
52.	Punctuality of passenger trains	29
53.	Restoration of passenger train services, 1948-9	30
54.	Refugee traffic	30
55.	Goods trains	30
56.	Goods train speeds	31
57.	Goods train loads	31
58.	Stock usage	31
59.	Engine usage	31
60.	Wagon usage	32
61.	Wagons loaded with "smalls"	32
62.	Improvement in marshalling and other yards and their working	32
63.	Wagon position, Broad Gauge Wagon Pool	32
64.	Wagon position, Metre Gauge Wagon Pool	33
65.	Neutral examination of interchanged stock	33
66.	Coal supply and coal stock position	33
67.	Fuel economy measures	34
68.	Reclassification of passenger accommodation from 1 January 1949 and effect on passenger traffic and earnings	34
	B.—Commercial	
69.	Alteration in rates and fares	35
70.	Effect of the changes in rates and fares introduced at the beginning of 1948 and 1949	37
71.	Efforts to secure better wagon usage and wagon loads	39
72.	Co-ordination of rail, road and water transport	40
73.	Closer contacts with business interests	40
74.	Claims for compensation and refunds	40
75.	Special drive for disposal of arrears compensation claims, for prevention of claims and problems created by partition	42
76.	Prevention of ticketless travel	43
77.	*Mela* traffic	43
78.	Measures to ensure civility and assistance on the part of railway staff in their dealings with the public	43
79.	Measures taken to prevent black-marketing of tickets	43
	CHAPTER V.—RAILWAY COLLIERIES	
80.	Output from principal railway collieries	44
81.	Coking coal	44
82.	Total coal consumed by Railways	45
83.	Coal mined in India	45
84.	Coal despatched by rail	45

PARAGRAPH No. | PAGE.

CHAPTER VI.—ROLLING STOCK AND MATERIALS

85. Additions to equipment . . . 46
86. Locomotives . . . 46
87. Scrapping of overage and uneconomical locomotives . . . 46
88. Manufacture of boilers and locomotives in India . . . 46
89. Repairs to locomotives in Railway Workshops and Running Sheds . 47
90. Rationalization of manufacturing capacity in Railway Workshops . 47
91. Supply of rails and fishplates from indigenous sources . . . 47
92. Wooden Sleeper Purchase Organization . . . 47
93. Value of railway materials purchased . . . 48
94. Intake of indigenous goods . . . 50
95. Value of stores purchased through the Ministry of Industry and Supply . . . 50
96. Value of stores purchases controlled by the Railway Board . . 51
97. Value of Cash purchases in North America controlled by the Railway Board . . . 51
98. Direct purchases by Railways . . . 51
99. Stores balances . . . 51
100. Timber supply situation . . . 52
101. Steel supply situation . . . 52
102. Supply position of vital stores or components of first importance . 52
103. Situation regarding theft of Railway property . . . 53
104. Water Softening . . . 53

CENTRAL STANDARDS OFFICE FOR RAILWAYS

105. Civil Engineering Wing . . . 53
106. Mechanical Engineering . . . 55

RESEARCH

107. Civil Engineering Research . . . 56
108. Mechanical Engineering Research . . . 57
109. Indian Railway Fuel Committee . . . 58

STANDARDIZATION COMMITTEES

110. Civil Engineering Wing . . . 60
111. Mechanical Engineering Wing . . . 61
112. Carriage & Wagon Standards Committee . . . 62
113. Electrical Standards Committee . . . 63
114. Specifications Standards Committee . . . 63
115. General . . . 64

CHAPTER VII.—STAFF

116. Number of Staff . . . 66
117. Cost of Staff . . . 66
118. Direct recruitment to the Superior Services . . . 67
119. Promotions . . . 67
120. Railways and Labour . . . 68
121. Grainshops . . . 69
122. Canteens . . . 72
123. Dearness allowance . . . 72
124. Railway staff and the War . . . 72
125. Railway Service Commissions . . . 72
126. Anti-corruption organization . . . 73
127. Labour legislation . . . 73
128. Staff councils . . . 73
129. Provision of quarters for railway staff . . . 74
130. Progress in implementation of the Adjudicator's Award . . . 74
131. Progress in implementation of the Central Pay Commission's Recommendations . . . 74
132. Training of staff . . . 75
133. Resettlement of demobilized *ex*-servicemen in reserved vacancies . 76
134. Activities of the Medical Department . . . 76

PARAGRAPH No. | PAGE.

CHAPTER VIII.—AMENITIES FOR PASSENGERS

135. General 77
136. New Class III carriages 77
137. Booking offices and out-agencies 77
138. Waiting rooms and waiting halls 77
139. Additional platforms and sheds 78
140. Reorganization of catering arrangements 78
141. Supply of drinking water 79
142. Cleanliness of coaching stock and prevention of thefts of fittings . 79
143. Steps taken to alleviate overcrowding in trains 79

CHAPTER IX.—ACCIDENTS

144. Major accidents 80
145. Review of accident statistics 80

APPENDICES

A. Resolution regarding the Separation of Railway from General Finances, adopted by the Legislative Assembly on 20 September 1924 and the Convention Resolution of 1943 85-86

B. Officers of the Ministry of Railways (Railway Board) and attached offices on 31 March 1949 87-88

C. Graphs—

(i) Total capital at charge, total gross earnings and total working expenses of Indian Government Railway Lines 91
(ii) Number of passengers carried on Indian Railways . . . 92
(iii) Number of passenger miles on Indian Railways 93
(iv) Average miles a passenger was carried—All Indian Railways (excluding Burma Railways) 94
(v) Average rate charged per passenger (per mile, in pies)—All Indian Railways (excluding Burma Railways) 95
(vi) Average rate charged per ton-mile (in pies), average lead of a ton of goods, total net ton-miles and total tons carried—All Indian Railways (excluding Burma Railways) . . . 96
(vii) Rolling-stock in service on Indian Railways (excluding Burma Railways) 97
(viii) Average number of wagons/vehicles per train and wagon/vehicle miles per wagon/vehicle day—Class I Railways . . 98
(ix) Total number and cost of staff on Indian Government Railways 99

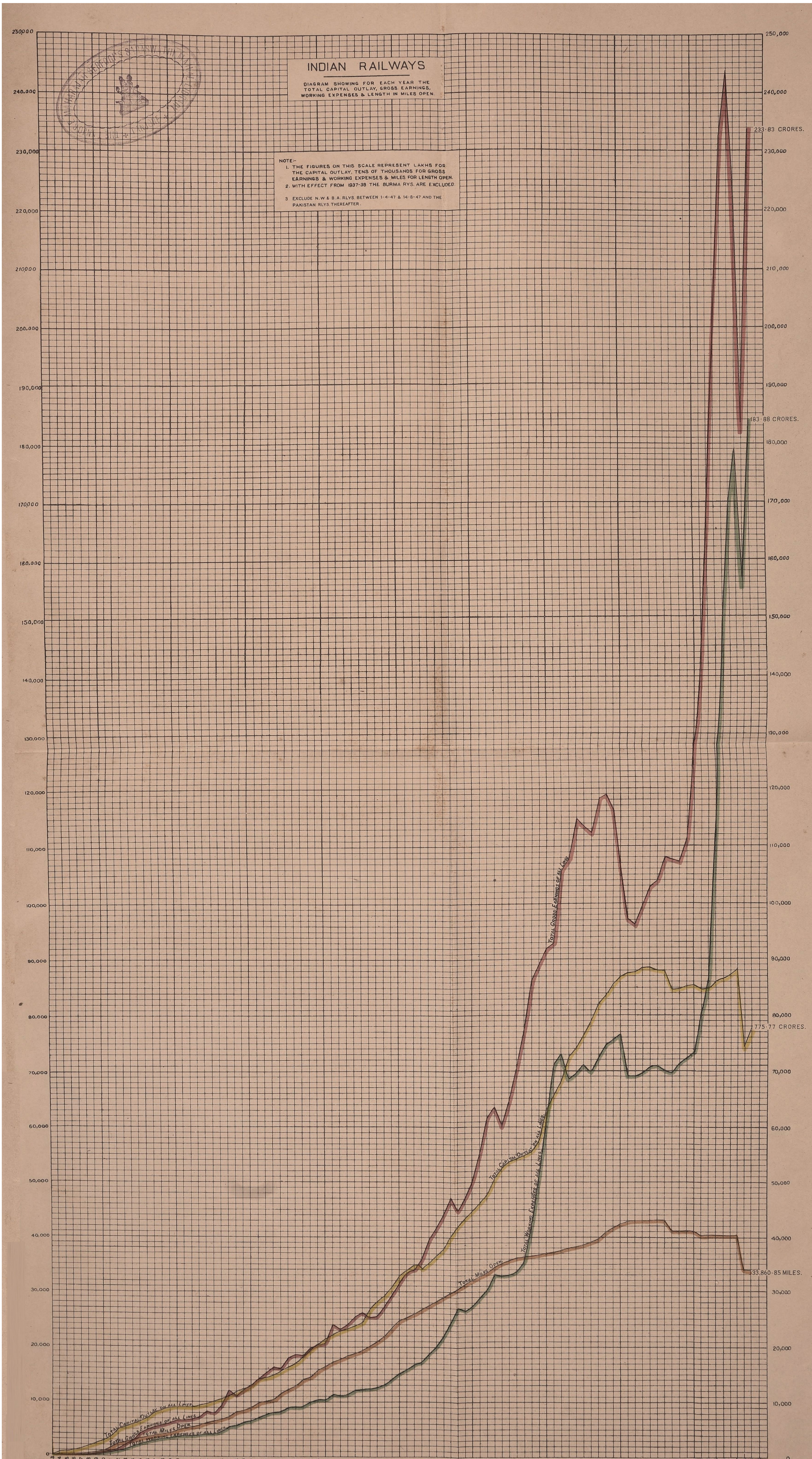
D. List of Railways in India 101-104

DIAGRAM

Total capital outlay, gross earnings, working expenses and length in miles . . . . After page vi

LIST OF PHOTOGRAPHS

Tunnel widening—G. I. P. Railway . . . . Facing page 20
Regirdering the bridge over the Languliya river at Dusi . . „ „ 22
W. P. type Baldwin Locomotive, G. I. P. Railway (Photo—Courtesy 'Times of India', Bombay) . . . . . . „ „ 46
Madras Egmore station . . . . „ „ 78
Reinforced concrete platform Refreshment Stall at Arkonam, M. & S. M. Railway . . . . „ „ 78



Reg. No. 2569 E'26-960'40-915'42-895'43-915'44-900'45-1,000'46-1,000'47-1,000'48-1,200 -1,300'49.

Printed at the Survey of India Offices (P.L.O.).

CHAPTER I

GENERAL

1. General features of the year.—The year under review was the first complete year of working for Indian Railways after the Partition. The conditions which prevailed towards the close of the previous fiscal year contained certain elements of uncertainty resulting from the post-partition economic readjustments, and these delayed the complete solution of the transitional problems left over by the war. These adjustments abated gradually and stability was progressively attained in 1948-9 with increased industrial activity. There was also a steady recovery in railway operational efficiency. The principal features of 1948-9 from the point of view of Indian Railways were the maintenance of high levels of traffic, upward trends in earnings, and the reduction of transport shortages.

Railways operations are only a reflex of the general economic activity of the country. The year from this point of view proved on the whole satisfactory. Although the agricultural situation during 1948-9 recorded a slight decline in both area and yield under major crops, this was offset by the rise in industrial production, resulting in increased output in most industries. Only coal and steel, among the major industries, recorded a decrease. But in spite of a reduction in raisings, coal despatches during the year substantially exceeded the total for 1947-8. Foreign trade also recorded gains. The physical volume of imports, expressed as a percentage of the pre-war level of 1938, touched 96·3 in 1948 against 82·2 in the previous year.

The volume of exports stated in the same percentage relation to the pre-war year increased from 66·2 to 67·7 in 1948. Perhaps the most satisfactory feature of the year was the improvement in the general labour situation in the country. The number of industrial disputes as compared with the previous year declined by 30 per cent, while the working days lost to industry were reduced by more than 50 per cent.

These economic developments were mainly responsible for the improved results of working during 1948-9. New records have been established under a number of items—the number of passengers, passenger miles, passenger earnings, and goods earnings—and accounted for the more satisfactory financial results of the year. There was a reassuring drop in the operating ratio of the Indian Government Railways from 91·40 to 78·98 during 1948-9. These achievements were made possible principally because of the sustained efforts on the part of the Railways to attain greater efficiency in operation and consequently increased ability to handle the additional traffic. This is shown by the wagon loadings which, during the closing months of the year, showed a steady curve of increase. Complaints of bottlenecks in transport became infrequent in sharp contrast to those at the beginning of the year.

The main features of railway operation as reflected in the statistics of the year are briefly referred to in the general review of working in the succeeding paragraphs.

2. General review of working.—As compared with 1947-8, there was during 1948-9, a general increase in the traffic handled, both passenger and goods. Excluding the figures of the Assam and Eastern Punjab Railways for proper comparison, the earnings from passengers on all Indian Railways increased by 19·8 per cent and the earnings from goods traffic by 28·5 per cent. The increase in earnings was due partly to the additional traffic handled and partly to the effect of changes in rates and fares.

Reference was made in the last report to the enhanced bases of passenger fares and the partial revision of the goods rates structure with effect from 1 January 1948. During 1948-9, there were further changes, namely, the introduction of rationalized coal scales as from 1 September 1948, and the practically complete revision of the rates structure as from 1 October 1948.

The gross traffic receipts of the Indian Government Railways amounted to Rs. 213·10 crores. After meeting all charges, including depreciation and interest charges, the surplus on the results of working for the year amounted to Rs. 19·98 crores. Out of this surplus, Rs. 11·80 crores were credited to the Railway Depreciation Fund as an additional contribution to strengthen the fund; General revenues received a payment of Rs. 7·34 crores as contribution; and the balance of Rs. 84 lakhs was placed at the credit of the Railway Betterment Fund.

Certain important statistics relating to the traffic handled during 1948-9 for all Indian Railways are given below. For proper comparison, the statistics for Indian Railways, excluding the Assam, Eastern Punjab and the narrow gauge section of the East Indian, have been shown separately for the two years, 1947-8 and 1948-9.

PRINCIPAL STATISTICS OF WORKING ON INDIAN RAILWAYS

Items		1948-9	*Excluding* E. P. and Assam and E. I. (N. G.) 1947-8	*Excluding* E. P. and Assam and E. I. (N. G.) 1948-9	Percentage variations
Number of passengers carried (in millions)		**1,180·6**	1,017·1*	**1,094·2**	+7·6
Passenger miles (in millions)		**38,765·0**	32,575·2*	**35,477·2**	+8·9
Earnings from passengers (in crores)	Rs.	**92·91**	70·40*	**84·34**	+19·8
Average amount earned per passenger per mile	Pies.	**4·60**	4·15	**4·56**	+9·9
Average miles a passenger was carried	Miles.	**32·8**	32·0	**32·4**	+1·3
Freight tons carried (in millions)		**82·6**	71·7	**77·9**	+8·6
Net ton miles (in millions)		**22,748**	20,111*	**21,823**	+8·5
Earnings from goods carried (in crores)	Rs.	**1,12·26**	82·49*	**1,05·99**	+28·5
Average amount earned per ton per mile	Pies.	**9·47**	7·87	**9·33**	+18·6
Average mile a ton of goods was carried	Miles	**276**	281	**280**	—0·4

* Revised figures.

The comparative figures indicate that the volume of traffic moved under both passenger and goods was larger during 1948-9 than in 1947-8. Passenger miles during the year stood at 8·9 per cent higher than in the previous year, while the net ton miles increased by 8·5 per cent. The average leads of passenger and goods traffic during the year showed only slight variations from those of the previous year.

The comparison of the passenger traffic in 1948-9 with that in the previous year does not indicate the remarkable increase that has occurred in it during the past ten years. On the Class I Railways, excluding the Eastern Punjab and Assam Railways, the number of passengers has gone up from 398 million in 1938-9, to 1,064 million in 1948-9, an increase of 167 per cent. The passenger miles in 1948-9 amounted to 33,841 million as compared with 13,456 million in 1938-9, an increase of 151·5 per cent.

A shift towards the pre-war peacetime pattern is also to be discerned in the distribution of passenger traffic between the upper and third classes. The trend towards increasing upper class travel was reversed during the year. In 1938-9, the third class accounted for 97 per cent of the total number of passengers and 95 per cent of the total passenger miles. The corresponding percentages, which stood at 95 per cent and 92 per cent in 1947-8, rose to 96 per cent and 93·5 per cent respectively of the total number of passengers and passenger miles in 1948-9.

The volume of goods traffic during the year on Class I Railways, excluding the Eastern Punjab and Assam, stated in terms of net ton miles, showed an increase of 9·1 per cent over the preceding year. As compared with 1938-9, however, there was an increase of 21·5 per cent. An analysis of the movements during the year shows the composition of goods to be 43·6 per cent under coal, 10·9 per cent under foodgrains and pulses, 2·5 per cent under oilseeds and 43 per cent under 'other commodities'. In 1947-8, coal accounted for 45·9 per cent, foodgrains, pulses and oilseeds combined for 11·7 per cent and other commodities for 42·4 per cent. Thus, the change in the composition of the traffic from the lowest-rated group, coal, to the commodities included in the other two higher-rated groups, together with the effects of the revision of goods rates structure, has helped to increase the average amount earned per ton per mile from 7·74 pies in 1947-8 to 9·18 pies in 1948-9.

Turning to the operating aspect, Indian Railways during the year have on the whole done better than they did in 1947-8. Taking the Class I Railways (excluding the Bengal Assam, North Western, Assam, Eastern Punjab, and East Indian, narrow gauge), the performance during 1948-9, shows improvement under several factors of working.

The train mileage run during 1948-9 records an increase of 2·27 million or 1·69 per cent over the previous year, touching almost the figure for 1938-9. The train mileage on goods services exceeded the pre-war level by 3·73 per cent. Though the passenger train mileage was still short of it by 2·84 per cent, it should be stated that it has been possible to add 2,235,000 train miles for passenger services during the year under review.

During the year, there has been an appreciable improvement in the punctuality of passenger trains. Another important development affecting passenger service was the introduction of new classes of passenger transportation with effect from 1 January 1949, referred to in detail in Chapter IV of this volume.

As regards goods services, greater efficiency in performance is shown under several operating averages. As compared with 1947-8, the net freight carried per goods train increased by 47 tons or by 11 per cent on the broad gauge. The transportation affected by wagons per day, as shown by the net ton mileage per wagon day, was 6·3 per cent higher on the broad gauge and 10·5 per cent higher on the metre gauge.

The average number of engines in use daily during 1948-9 rose by 4 per cent on the broad gauge and by 5 per cent on the metre gauge as compared with 1947-8. The work performed by locomotives also reflects a general improvement. The percentages of broad gauge engines under or awaiting repairs showed a slight increase from 20·2 to 20·8, but on the metre gauge, there has been a decrease from 19·9 to 17·9.

3. Railways and the Legislature.—The Railway Budget for 1949-50 as approved by the Standing Finance Committee for Railways was presented to the Constituent Assembly (Legislative) on 15 February 1949. The General Discussion on the budget proposals took place in the House on 18 and 21 February 1949. The vote on the demands for grants was taken on 22 and 23 February 1949.

The discussion covered a variety of subjects. The more important of these related to the revised classification for passenger travel introduced from 1 January 1949, need for economy in expenditure, overcrowding in trains, booking of accommodation at intermediate stations in compartments reserved for long-distance passengers, provision of increased amenities for Class III passengers, establishment of a coach-building factory, efficiency of railway

performance, the desirability of improving relations between the executive and the railway labour, early implementation of the recommendations made by the Indian Railway Enquiry Committee, extension of the system of departmental catering, resumption of through trains to Lahore (W. Pakistan), appropriation of the Railway portion of the surplus to the Depreciation Reserve Fund and the continuance of the contribution to the General Revenues.

Three cut motions were moved to discuss 'inability to check general corruption'; 'insufficient provision for amenities to passengers'; and 'economy in General Administration', but were withdrawn after discussion.

Out of a total number of 2,871 questions asked in the Constituent Assembly (Legislative) during the year, 286 or about 10 per cent, related to the Ministry of Railways. A wide range of topics, such as railway accidents, measures taken to check corruption, construction of new lines, amenities to passengers, manufacture of locomotives in India, new passenger classification on railways formed the subject of these interpellations.

4. Standing Finance Committee for Railways.—The Standing Finance Committee for Railways met eight times during the year. As usual it scrutinized Government's proposals for Capital and Revenue Expenditure to be incurred during 1949-50 prior to their being placed before the Constituent Assembly. These proposals included the purchase of the Darjeeling Himalayan Railway and its Extensions, Pachora-Jamner Railway, and Mayurbhanj Railway. Among others considered by the Committee were the purchase of locomotives, locomotive spares and duplicate parts from foreign countries; the partial doubling of Muttra-Delhi section, doubling of Anand-Barejadi section, of Lucknow-Bareilly section and of Phalgu Bridge near Gaya; construction of a bridge across the Ganga at Mokameh; acquisition of land for workshops on Assam and Eastern Punjab Railways, and for Divisional Office at Jullundur; acquisition of Byculla Club Area in exchange for the lands in Colaba Area in Bombay; extension of Power House at Kalyan, new Railway Staff College; elimination of the use of all forms of risk notes; and provision of a new marshalling yard and a new local goods yard for broad gauge at Ahmedabad.

The Committee also approved of the creation of certain permanent Class I posts and of the changes in the scope of the Betterment Fund, limiting it to passenger amenity works only, with effect from 1 April 1949.

5. Central Advisory Council.—The Central Advisory Council for Railways held five meetings during the year and discussed a number of subjects. Some of the important decisions taken by the Council are given below:

(*a*) Separate refreshment rooms in European style and Indian style and for different communities should be discontinued and only two categories of refreshment rooms, *viz.*, vegetarian and non-vegetarian, should be provided, but at a few large stations Restaurants catering in Western style may be retained. The refreshment rooms should be open to all classes of passengers without distinction. Serving of alcoholic drinks in refreshment rooms and restaurant cars should be discontinued.

(*b*) Maximum possible assistance should be rendered to refugee vendors without causing serious dislocation in the existing contracts.

(*c*) Reduction in the number of classes of accommodation for passenger traffic from four to three.

(*d*) Separate accommodation should be provided in important mail and express trains for Class III passengers travelling 300 miles or over.

(*e*) While fitting electric fans in Classes II and III, priority should be given to Ladies' compartments.

6. Local Railway Advisory Committees.—Meetings of the Local Advisory Committees totalled 55 during 1948-9 as compared with 58 during the previous year. The members of these Committees were kept fully informed of all important problems affecting passenger travel. Their recommendations were given the fullest consideration, and action was taken on them as far as possible.

The subjects discussed at the meetings of the Local Advisory Committee covered a wide range of important items of public interest. A good many of these pertained to the needs of the travelling public. Among the subjects of general interest discussed at these meetings, the following may be mentioned :—

(*a*) time tables and train services;

(*b*) ticketless travel;

(*c*) catering—periodical revision of charges and inspection by railway doctors of foodstuffs offered for sale to the travelling public;

(*d*) lighting arrangements in trains and at stations;

(*e*) opening of train halts, booking windows and city booking offices;

(*f*) amenities for Class III passengers;

(*g*) reservation of accommodation;

(*h*) safety of passengers during night journeys;

(*i*) arrangements for supply of drinking water to railway passengers;

(*j*) allotment of priority and supply of wagons;

(*k*) sale of literature at railway bookstalls;

(*l*) provision of 'vestibuled coaching stock' on trains;

(*m*) post-war reconstruction programme; and

(*n*) claims for compensation.

7. Amenities for the public.—The steps taken during the year towards making rail travel more comfortable are referred to in greater detail in Chapter VIII.

Overcrowding persisted, although in a somewhat less acute form, and Railways introduced the following measures with the object of removing some of the inconveniences of long distance travel, *i.e.*, journeys of 300 miles or over on the broad gauge and 200 miles or over on the metre gauge :—

(*a*) additional booking office windows were opened for the issue of tickets to long distance passengers and to passengers travelling to out-of-the-way places only;

(*b*) at important starting stations complete Class III bogies were set apart in each long distance mail or express train, exclusively for the use of long distance passengers; and

(*c*) special travelling ticket examiners were appointed to travel in the carriages set apart for long distance passengers, the object being to prevent short distance passengers from entering into these carriages either at starting stations or *en route*.

From all indications, these arrangements appear to have been well received by the public.

The question of advance booking for long distance Class III passengers was examined during the year, and, towards the end of the year, arrangements for affording facilities for such advance booking were introduced on several Railways.

Announcers were appointed at certain important stations to announce arrivals and departures of trains.

8. Staff.—The relations of the Railway Administrations with the staff during the year are dealt with in greater detail elsewhere in this report. The important events of the year are summarized in the following paragraphs.

(*a*) The appointment of a Tribunal, consisting of a representative each of Railways and of labour under a neutral Chairman, nominated by the Ministry of Labour, for classifying skilled and semi-skilled artisans and evolving, as far as possible, uniform designations for staff performing the same kind of duties. The Tribunal submitted its report in May 1948 and orders were immediately issued to give effect to the recommendations made by the Tribunal.

(*b*) The appointment of a Committee to review the prescribed basic scales of pay for running staff and the existing running allowance rules and to suggest appropriate scales and running allowance rules for application uniformly on all Indian Government Railways. After examination of the report and making certain improvements in the scales of pay and allowances recommended by the Committee, orders were issued to Railway Administrations to implement those recommendations. Uniformity in this matter would thus be achieved on all the Indian Government Railways.

(*c*) Discussions with the All-India Railwaymen's Federation on various matters concerning the railway staff, including anomalies arising out of the implementation of the recommendations of the Pay Commission and consideration, in particular, of the question of the constitution of a body to advise on the cases of anomalies and hardships.

(*d*) Allotment of prescribed scales of pay to a large number of the remaining categories of railway staff, thereby bringing the bulk of the posts on the Indian Government Railways into a single pay structure in accordance with the Central Pay Commission's recommendations.

(*e*) Progress in the conversion of temporary posts into permanent ones and confirmation of temporary staff.

(*f*) The issue of instructions to Railway Administrations regarding implementation of the Adjudicator's Award in phases and certain progress made in that direction.

Except for the strike of the Loco. staff on the South Indian Railway—details of which are given elsewhere in this report—Indian Government Railways remained practically free from labour trouble. The number of man-days lost on account of strikes was approximately 0·2 per cent of the total number of man-days worked during the year. As a result of the consideration of a resolution passed by the General Council of the All-India Railwaymen's Federation held on 30 and 31 August 1948, at Lillooah, calling upon their affiliated unions to take a strike ballot, the President of the All-India Railwaymen's Federation was invited for a meeting with the Hon'ble Minister for Transport and Railways, as Government considered that many of the misunderstandings and points in dispute could be cleared up by a personal discussion with the Federation. The meeting took place at Bombay on 4 January 1949, and discussions between the representatives of the Federation and the Ministry of Railways were later on resumed in Delhi. As a result of these discussions the Federation decided at their meeting held at Dinapore on 16 February 1949 to stay action on the results of the strike ballot although a few unions, dominated by communist elements gave notice of the commencement of a strike on certain railways from 9 March 1949, a threat which, however, did not materialize.

The total number of staff of all grades (gazetted and non-gazetted) employed on the open lines of Indian Government Railways, including Assam and Eastern Punjab Railways, increased from 825,031 on 31 March 1948 to 838,412 on 31 March 1949. The total number of staff of all grades (gazetted and non-gazetted) employed on constructions decreased from 4,115 to 1,326. The total cost of the staff, was Rs. 78,36,71,871 an increase of Rs. 15,32,42,308 over the figure for the preceding year. The increase in the number and/or cost, as the case may be, of staff reflects mainly the effects of the implementation of the recommendations of the Central Pay Commission with retrospective effect, the setting up of organizations on railways for implementing the Adjudicator's Award, the payment, as a result of the recommendations of the Railway Grainshops Enquiry Committee, of more dearness allowance and certain lump sum amounts in lieu of grainshop concessions to staff who elected for the full dearness allowance in cash, and the increase in the rates of dearness allowance.

At the close of the year, there were in all 589 grainshops, of which 448 were static and 141 mobile. The number of ration card holders who purchased foodstuffs, etc., at these shops at the close of the year was 613,000, of which 413,000 were at concessional rates and 200,000 at controlled rates. The loss incurred in affording relief in kind to the staff was approximately Rs. 28·8 crores. This is equivalent to an average relief of about Rs. 24·3 per ration card holder during March 1949 as against Rs. 22·4 during the previous year.

The number of canteens providing light refreshments to workers and, in some cases, cooked meals increased from 26 to 52 in the year under report and the number of staff who patronized these canteens was on an average of 53,000 per day.

The rates of dearness allowance admissible to staff drawing basic pay of Rs. 250 and below were increased by Rs. 10 per mensem, in the case of staff who elected for the full dearness allowance in cash, while, in the case of Railway staff availing themselves of the grainshop concessions, an increase of Rs. 5 per mensem in the rates of dearness allowance was sanctioned, the increased rates taking effect in both cases from 1 January 1949.

9. Security measures on Railways.—In 1948 there were about 5,100 all ranks in the Railway Protection Police on the Eastern Punjab, East Indian, Oudh Tirhut, Bengal Nagpur, Assam, Great Indian Peninsula, and Bombay, Baroda and Central India Railways. At the suggestion of the Bombay, Baroda and Central India Railway, and with the concurrence of the Government of the United Provinces, the Railway Protection Police force in the United Provinces' portion of that railway was disbanded in May 1948. By 1949, there were thus about 4,800 all ranks in this force on the remaining six railways mentioned above.

Railways continued to give full attention to the fitting of security devices in compartments and to the maintenance of such devices in good working order.

10. Publicity and Public Relations.—The Public Relations Branch maintained close contacts with other Departments of the Central Government, with the press, and the trading community. Press communiqués were issued from time to time, regarding the decisions of the Government on important railway matters of interest to the public. Public reactions on the problems and activities of railways were carefully studied. While legitimate and constructive criticism was passed on to the Directorates concerned for remedial action, uninformed or unfair criticism was contradicted or otherwise suitably dealt with.

A conference of the Public Relations Officers was held from 31 December 1948 to 4 January 1949 in Calcutta in order to co-ordinate the efforts of Administrations in building up the goodwill of the public for the Railways. The conference discussed the outlines of a country-wide publicity campaign, which was later launched on all the Government Railways in February 1949

as part of a major claims prevention drive. The "P. L. M. Campaign", as it was termed, was intended to impress upon the mercantile community the importance of proper packing, clear labelling and legible marking in order to ensure safe transit of consignments. The campaign was conducted for a period of six months through a series of display press advertisements, posters, blotters, folders and cinema slides.

The Public Relations Organizations on the Railways cultivated cordial relations with the press and the trading community belonging to their respective areas. The Great Indian Peninsula Railway revived its *News Letter* from 1 February 1949, in order to present a monthly resumé of news, about the Great Indian Peninsula Railway, of interest to the public. The Public Relations Officer, Calcutta, published "Know Your Line" series of illustrated folders in various languages to disseminate knowledge about the East Indian and Bengal Nagpur Railways. These folders, which contained factual information about the role of the two railways in the economy of the country, their equipment, income, expenditure, present position and future plans, were distributed not only to railway employees but also to Chambers of Commerce and educational institutions. The Public Relations Officer, Madras, through his *Weekly News Letter* gave news of general interest to railway workers.

Propaganda against ticketless travel was carried on almost all railways, while increasing emphasis was placed on the cultivation of courtesy on the part of the staff towards Railways' customers. The Great Indian Peninsula Railway issued display advertisements in selected Bombay and up-country papers on such subjects as increased movement of commodities, speedy settlement of claims, punctuality of trains, ticketless travel, and appointment of passenger guides.

11. Complaints.—The Complaints Organization for watching the prompt disposal of complaints from the public continued during the year. The volume of work handled may be gauged from the fact that during the year ending 31 March 1949, 20,668 complaints were handled by Railway Administrations. The Public Relations Branch in the Railway Board's office alone dealt with 4,064 complaints.

The complaints related to a variety of subjects, such as, lack of particular amenities for passengers at stations, inadequacy of train services, discrimination in booking of luggage or allotment of wagons, and missing consignments. Allegations of incivility towards the public and corruption on the part of the staff received special attention. The assistance of the Special Police Establishment of the Ministry of Home Affairs was secured whenever necessary, for investigating complaints about bribery. In some cases, railways were not able to pursue the investigation of complaints owing to incomplete particulars or fictitious names and addresses given in the complaints. In other cases, the complainants failed to attend enquiries arranged in consultation with them by officials deputed to hold enquiries. Disciplinary action against the staff was taken in all cases where complaints were substantiated.

It has been decided that only one complaint book should be maintained at a station in the office of the station master on duty so as to facilitate prompt remedial action being taken on the complaints recorded by members of the public.

12. Damage caused to railways by floods and cyclones.—Considerable damage was done to railway property during the year as a result of heavy rain, floods and cyclones. Only the South Indian, Madras and Southern Mahratta, and Bengal Nagpur Railways remained unaffected. On the other Government Railways, in the particular sections affected, there were breaches to lines, impairment of bridges, dislocation of tele-communications, etc. These led to interruptions to services, which were restored as soon as repairs could be carried out. A reference is briefly made in the following paragraphs to the extent and character of the damage caused by these natural visitations on the principal railways.

Assam Railway.—As a result of heavy storms during April 1948 and February-March 1949, a record rise in the Brahmaputra and heavy rainfall, some of the buildings, bridges and track, etc., on the Assam Railway, suffered considerable damage. The more important items to which reference may be made are staff quarters on the Sapatgram section and at Amingaon, Badarpur and Lumding stations; some bridges on the Golakganj-Amingaon, Tangla-Harisinga, Rowta Bagan-Majbat and Chaparmukh-Silghat sections, and major slips and bank subsidences, etc., on the Badarpur-Lumding and Rangiya-Rangapara sections. Communication remained interrupted on certain sections for varying periods, in some cases for as long as 10 to 19 days. Transhipment was arranged wherever practicable. The total cost of repairing the damages amounted to about Rs. 3,58,000.

Bombay, Baroda and Central India Railway.—A cyclone of very severe intensity struck the city of Bombay and its suburbs on 21 November 1948, causing extensive damage to tele-communications, power distribution wires, signals, railway lines, bridges, and staff and service buildings in and around Bombay. Traffic between Churchgate and Bulsar remained interrupted for two days in consequence. The approximate cost of repairs was Rs. 3,29,000.

On the metre gauge section, in consequence of the line having been washed away in a number of places in July 1948, on the Khandwa-Chitorgarh section, and in October on the Bhatinda-Fazilka section, owing to a breach in the Fazilka Distributory, communication was interrupted for a day and a half in each case. The approximate cost of repairs was about Rs. 10,600.

East Indian Railway.—On the East Indian Railway, as a result of the rise of water level in the neighbouring rivers, breaches occurred between Krishnapur and Lalgola Ghat, and on the Tarighat Branch, resulting in the suspension of traffic for 19 and 26 days respectively during September-October 1948. Floods in the Ganga at Kashi during September 1948 damaged pier No. 3 of the Malaviya Bridge, and it is proposed to have the pier repitched at an estimated cost of about Rs. 8 lakhs. On account of heavy rains in September, the bank between Banaras and Bechupur settled down at several places. On the Lhaksar-Dehra Dun section, breaches occurred at 11 places between Hardwar and Diowala stations on 5 August 1948, and traffic remained interrupted for three days. A bridge on the Moradabad-Chandausi Branch was heavily scoured by floods. On 24 August 1948, a bridge on the Raja-ka-Sahaspur-Sambal Hatim Sarai Branch was severely damaged. It was restored as a semi-permanent measure at a cost of about Rs. 1,33,000, and through communication was resumed on 11 May 1949. The total cost of repairing the damages, including the figures separately given above in two cases, amounted to Rs. 10,62,000 approximately. A severe cyclone accompanied by heavy rain visited Tundla and its neighbouring stations on 23 May 1948 damaging the lines of communications, telegraph and signal posts, etc., and resulting in detention to trains up to a maximum of five hours at Tundla. The total cost of the repairs amounted to about Rs. 15,000.

Eastern Punjab Railway.—A part of the tunnel between Sonwara and Jabli stations on the Kalka-Simla section collapsed on 16 August 1948 owing to heavy rainfall. Communication remained interrupted for eight days from 22 August 1948. On the Jullunder City-Mukerian section, the track between Dasuya and Mukerian stations breached on 1 August 1948 in three places by heavy rain. Through communication was interrupted for eight days. The approximate cost of repairing the tunnel and the breach as well as of repairing other minor breaches on the Khurdpur-Sham Chaurasi-Nasrala sections amounted to Rs. 1,15,000.

Great Indian Peninsula Railway.—As a result of the cyclone on 21 November 1948 referred to earlier, power failure on the Great Indian Peninsula Railway, brought the suburban service to a standstill for varying periods on the different sections during 22 to 24 November 1948. Other traffic was also interrupted between Igatpuri and Khervadi on the North East line, and between Bombay and Kalyan, and Kalyan and Vangani, on the South East line. The track subsided between Talegaon and Dehu Road and at Kirkee. The approximate cost of repairs amounted to Rs. 1,75,000.

Oudh Tirhut Railway.—On the Oudh Tirhut Railway, the offices, staff quarters, level crossings and railway lines at Sonepore suffered heavy damage as a result of a record rise in the flood level in the Ganga on 13 September 1948. The river was previously in spate on 29 June 1948 and then again on 9 August 1948. These floods caused interruption in traffic between Paleza Ghat and Patna from 29 June to 8 July and from 14 to 20 September 1948. A big breach was caused between Paleza Ghat and Sonepore on 6 September 1948 as a result of villagers in the neighbourhood having cut the railway embankment defying the patrolmen. Communication between these stations was restored by a diversion.

On the Katihar-Sonepore section, as a result of a part of the railway embankment having been cut by the villagers, the railway line between Mohiuddinnagar and Shahpur Patoree was breached on the night of 16 September with consequent interruption in communication between Hajipur and Bachhwara from 17 September to 4 October 1948. The main line trains were diverted *viâ* Samastipur. The total cost of repairing these and also other flood damages on the Allahabad-Banaras and Sonepore-Katihar sections was about Rs. 3,23,000. Several breaches were caused on 13 July by heavy floods on the Baijnathpur-Dauram Madhepura section. As the cost of repairing the damages was very high, only a fair weather connection between the two stations was restored by a ground level diversion, round the breaches. The duration of interruption to traffic was 7 months and 11 days.

No damage of a serious nature was caused by floods and cyclones on the Bengal Nagpur, Madras and Southern Mahratta, and South Indian Railways.

13. Acquisition of Company Railways by Government.—According to the Government's decisions referred to in paragraph 14 of the last report, the contract of the Pachora-Jamner Railway was terminated on 31 March 1949, and the Matheran Hill Light Railway and the Darjeeling-Himalayan Railway including the Darjeeling-Himalayan Railway Extensions were taken over with effect from 1 April 1948 and 20 October 1948 respectively. During the year, it was also decided to buy the Mayurbhanj Railway with effect from 1 April 1950. This is a rebate-aided narrow gauge line, 70·64 miles in length, owned by the Mayurbhanj Railway Company and worked by the Bengal Nagpur Railway.

14. Railway Rates Tribunal.—The appointment of an independent Railway Rates Tribunal with mandatory powers in place of the old Railway Rates Advisory Committee was authorized by the Indian Railways (Second Amendment) Act, 1948, which was passed by the Constituent Assembly of India (Legislative) in September 1948. This Act was not, however, notified as coming into force until 4 April 1949.

According to the Act, the Tribunal may entertain complaints against Railway Administrations in respect of undue discrimination, the quotation of unreasonable rates, refusal to quote reasonable station-to-station rates, etc. The Tribunal alone will have power to reclassify any commodity in a higher class, although such powers will not be exercised except on application by the Central Government; and the Tribunal as well as the Central Government will have power to reclassify any commodity in a lower class.

15. Effect of partition on traffic arrangements—Problems in relation to traffic with Pakistan Railways.

East Indian Railway.—The Sealdah Division, which was transferred to the East Indian Railway as a result of partition of the country, continued to be treated as a separate unit, so far as rating and routing of traffic was concerned. Traffic between the Eastern Bengal Railway (Pakistan) and Sealdah Division continued to be routed *viâ* the frontier junctions, *viz.*, Bongaon-Benapol and Banpur-Darsana.

The total quantity of jute released at the Calcutta Area stations, *viz.*, Kalighat, Chitpur, Ballygunge, Kidderpore Docks, Ultadanga, Cossipore Road during 1948-9 showed a gradual decline in volume, as shown by the following figures.

July to March	Maunds
1946-7	9,852,304
1947-8	6,783,567
1948-9	6,432,423

Oudh Tirhut Railway.—No special arrangements had to be made except the provision of through trains between Manihari Ghat and Naksalbari, and Manihari Ghat and Malda Court.

Jodhpur Railway.—Through train service between the Dominions of India and Pakistan terminated abruptly on 27 July 1948 with 10 Down at Khokhropar and 9 Up at Munabao. Since then through communication has been under suspension and booking restricted beyond Munabao, the last border station on the Indian side. Thus both passenger and goods traffic between the two Dominions is at a standstill, except that some traffic in passengers and cotton seeds and cement moves between Munabao and Khokhropar by road. Traffic so brought to Munabao is booked to destinations in India.

16. Implementation of decision for division of rolling-stock.—The reconstituted Stores Sub-Committee (Railways), consisting of representatives of India and Pakistan, met twice during the year, for the purpose of finalizing the division of rolling-stock and stores in accordance with the Radcliffe Award. The number of locomotives, spare boilers, carriages, wagons and ferry stock to be received by India and Pakistan respectively out of the old Bengal Assam and North Western Railways stock was decided at these meetings. Balancing Committees were set up to work out the individual numbers of the stock by equitable age groups. Decision was also taken in the matter of division of rolling-stock on order as well as under construction on 15 August 1947. There were, however, one or two points over which no agreement could be reached and these were left over for further discussion at a meeting of the Committee to be held in May 1949. By 31 March 1949 considerable progress had been made on the Eastern Punjab and North Western, and the East Indian, Assam and Eastern Bengal Railways in the matter of implementing the agreed decisions of the Departmental Sub-Committee.

17. Effect of partition—absorption of India-opted staff of the old Bengal Assam and North Western Railways.—On the partition of India, about 60,000 India-opting employees of the old Bengal Assam and North Western Railways had to be found postings on Indian Government Railways. Because of the disturbances, the transfers could not be carried out in an orderly manner and the staff had to come away *en masse* from Pakistan areas. The staff were distributed on Indian Government Railways as follows :—

Railway	No. of employees
(1) Eastern Punjab	14,510
(2) Bombay, Baroda and Central India	2,815
(3) Great Indian Penisula	1,638
(4) East Indian	17,017
(5) Assam	18,170
(6) Bengal Nagpur	3,557
(7) Oudh Tirhut	2,165
(8) Madras and Southern Mahratta	17
(9) South Indian	11
TOTAL	59,900

An advance of two months' pay had been sanctioned to the staff to enable them to carry out the transfer. But because of the disturbances, a good number of them had to leave all their belongings in Pakistan. In order to enable them to tide over their immediate difficulties, a rehabilitation advance was sanctioned equal to three months' pay and returnable in 36 instalments.

The large-scale transfer of staff raised a number of problems on Indian Government Railways. The staff had to be fitted into appropriate positions *vis-a-vis* those of the existing staff of the Railways, and this problem was complicated by the fact that the grades on all the Railways were not uniform. As there were a large number of India-opting staff and the vacancies caused by the departure of Pakistan-opting staff were not enough to accommodate them, it was decided to absorb the staff in their substantive grades, reverting, if necessary, any existing staff of the Railways who had been officiating in these posts. Their claims for officiating in higher grades were required to be considered along with those of the existing staff of the Railways. For this purpose, combined seniority lists had to be drawn up and instructions were issued to this effect in August 1948.

Another difficult problem was that of obtaining the service records and provident fund accounts of the staff who came from Pakistan. As it was anticipated that there might be considerable delay in seeking out and forwarding all the records, instructions were issued early in 1948 for reconstructing the service records on certain *ad hoc* formulæ, supplemented by affidavits furnished by the staff. This procedure could not, however, be adopted in the case of provident fund accounts. Meanwhile, a number of such staff had retired or were due for retirement, and were anxious to obtain their provident fund money. Special arrangements were made in the last quarter of 1948 for the quick transfer of their accounts, and, by the beginning of 1949, almost all accounts had been received. The rate of transfer of service records has not, however, been equally satisfactory, and even now about 14,000 records are outstanding.

18. Change in open miles owing to partition—handing over of Jodhpur-Hyderabad section to Pakistan.—Partition of the country into the Dominions of India and Pakistan affected only three railway systems, *viz.*, North Western, Bengal Assam, and Jodhpur Railways. The North Western Railway had a mileage of 6,881¼ before partition, of which 1,855¼ miles fell within the Indian Dominion and 5,026 miles in Pakistan. Of the 3,555 miles of the Bengal Assam Railway, 352 miles of B. G., 17 miles of N. G. and 1,573 miles of M. G. fell within India and 1,613 miles in Pakistan. The Sind section of the Jodhpur-Hyderabad Railway, a length of 319 miles of M. G. fell entirely within Pakistan.

19. Loss of man-days as a result of strikes.—The total number of man-days lost as a result of strikes in workshops, running sheds and other similar establishments on Indian Government Railways during 1948-9 was approximately 0·2 per cent of the total number of man-days worked. The number of man-days worked during the year totalled 121,789,498 and the man-days lost owing to strikes amounted to 220,103.

The details of the total number of man-days worked during the year and the number of man-days lost by railways in consequence of strikes are summarized in the following table.

NUMBER OF MAN-DAYS WORKED AND LOST THROUGH STRIKES DURING 1948-9

Railways	No. of man-days worked	No. of man-days lost owing to	
		Legal strikes	Illegal strikes
Assam	8,024,473	*Nil.*	38,366
Bengal Nagpur	5,838,000	,,	57,097
Bombay, Baroda & Central India	7,974,818	8	7,971
East Indian	55,098,698	*Nil.*	13,011
Eastern Punjub	14,669,110	,,	100
Great Indian Peninsula	13,670,549	4,785	42,220
Madras & Southern Mahratta	6,211,188	*Nil.*	3,146
Oudh Tirhut	6,162,393	,,	8,613
South Indian	4,140,269	,,	44,786
TOTAL	121,789,498	4,793	215,310

CHAPTER II

FINANCIAL RESULTS

20. Monsoon Conditions and Agricultural Situation, 1948-9.—Before proceeding to examine the financial results of Indian Railways for 1948-9, a reference may be made to two important factors affecting the volume of traffic handled, namely, the agricultural situation and the foreign sea-borne trade during the year.

Although the south-west monsoon started during the year a little later than usual, the country as a whole received satisfactory rains during the monsoon period. The only exceptions were the United Provinces and Gujarat, the former having excessive rains, and the latter a complete drought. Rainfall was normal afterwards, except in November when many parts of the country, especially parts of Assam, West Bengal, Orissa, Chota Nagpur and the Deccan, had untimely rains. Taking the year as a whole, rainfall was in excess of the normal in the United Provinces and south Hyderabad. It was deficient in Gujarat and west Rajputana. In all other parts of the country†, it was normal.

Final forecast figures of area and yield for all the crops for 1948-9 are not yet available, but the data so far published point to a general decline in both the area under, and the yield of, the principal crops. The decline is more pronounced in the case of commercial crops like cotton, sugarcane, sesamum and linseed. The main reasons for the decrease have been excessive rains and floods in the United Provinces, complete drought in Gujarat and Saurashtra, and unfavourable weather conditions at the time of sowing in the Central Provinces and Berar, Hyderabad and Madras. An appreciable increase in acreage has been recorded under gram, reflecting the effects of prevailing high prices in the Central Provinces and Berar, favourable weather conditions in the Central Provinces and East Punjab, and progress in rehabilitation of refugees in Patiala and East Punjab States Union. There was a significant increase in the acreage and yield of jute owing to favourable weather conditions at sowing time in Assam, Bihar and West Bengal, and the cultivation of 66,420 acres of waste and other lands on which no crop was grown in the jute season during the previous three years.

According to the information available, the percentage variations in the acreage and yield under the principal crops, as compared with the previous year, are as shown in the following table.

VARIATIONS IN ACREAGE AND YIELD OF PRINCIPAL CROPS

(Increase or decrease per cent in 1948-9 over 1947-8)

Crop*	Acreage	Yield
Rice (final)	– 0·6	– 3·7
Wheat (second)	– 5·0	...
Ragi (first)	– 5·8	...
Gram (first)	+ 7·9	...
Jowar (second)	– 3·4	– 20·0
Bajra (first)	– 6·7	...
Maize (first)	– 9·5	...
Barley (first)	+ 2·8	...
Sugarcane (final)	– 9·9	– 14·1
Sesamum (supplementary)	– 10·4	– 16·0
Castor seed (final)	– 0·6	– 7·6
Groundnut (final)	– 9·9	– 9·9
Rape and mustard (second)	– 3·8	...
Linseed (second)	+ 0·8	...
Cotton (fourth)	+ 2·6	– 17·8
Jute (final)	+ 11·75	+ 11·95

* The character of the forecast is indicated within brackets.

† Data for Kashmir are not available.

21. Trade Review.—The improvement noticed during the last four years in the foreign sea-borne trade of India was fully maintained during 1948-9. Both imports and exports registered further increases as compared with the figures of the previous year.

The total value of imports of foreign merchandise rose from Rs. 399 crores in 1947-8 to Rs. 518 crores during the year, representing an increase of Rs. 119 crores, or 30 per cent. The improvement is to be ascribed mainly to larger imports of grain, pulse, and flour (mainly wheat and rice), cotton raw and waste, machinery including belting for machinery, chemicals, cotton and woollen yarns and manufactures, artificial silk yarns, metals and manufactures thereof, vehicles excluding locomotives, etc., for railways, mineral oil other than kerosene oil, fruits and vegetables, electrical instruments, teak-wood and cloves. Decreases occurred under unset precious stones and pearls, kerosene oil, dyes and colours, glass and glassware, drugs and medicines, and tobacco.

The total value of exports increased from Rs. 395 crores in 1947-8 to Rs. 415 crores in 1948-9, recording an increase of Rs. 20 crores or 5 per cent. The main factors responsible for the increase are larger shipments of cotton piecegoods, jute bags and cloth, black tea, coal, groundnut oil, cashew kernels, unmanufactured tobacco, tanned or dressed skin and turmeric. There were, however, decreases under raw cotton, seeds (including nuts for oil), raw hides and skins, tanned or dressed hides, raw jute, raw wool, and pepper. But these decreases were more than offset by the larger exports under the items enumerated above.

The total value of re-exports, however, declined from Rs. 7,88 lakhs in 1947-8 to Rs. 7,29 lakhs in 1948-9, a drop of Rs. 59 lakhs or 7 per cent. The decrease was primarily due to reduced shipments of vehicles (excluding locomotives, etc., for railways) notwithstanding an increase under cotton piecegoods.

A.—FINANCIAL RESULTS OF INDIAN GOVERNMENT RAILWAYS (INCLUDING WORKED LINES).

22. Financial results of working.—The gross traffic receipts of the Indian Government Railways, including worked lines for the year 1948-9 amounted to Rs. 213·10 crores. The ordinary working expenses during the year were Rs. 160·41 crores and the appropriation to the depreciation fund was Rs. 11·29 crores. Payments to worked lines as their share of net earnings amounted to Rs. 1·62 crores. The result of miscellaneous transactions was a net receipt of Rs. 2·56 crores. The net revenue for the year came to Rs. 42·34 crores. The interest charges amounted to Rs. 22·36 crores. There was, thus, a surplus of Rs. 19·98 crores, of which Rs. 7·34 crores were paid to the General Revenues and a sum of Rs. 84 lakhs was credited to the Railway Betterment Fund. The balance of Rs. 11·80 crores was transferred to the Depreciation Fund.

23. Traffic Receipts.—The total traffic receipts of the Indian Government Railways, excluding worked lines, amounted to Rs. 208·78 crores. The details are shown in the subjoined statement. For purposes of comparison with the previous year, the figures included in the Report for 1947-8 have been adopted in this Volume and they continue to be provisional as the pre-partition accounts have not so far been closed for want of the accounts of the late Bengal Assam and North Western Railways from the Pakistan authorities.

EARNINGS AND NET TRAFFIC RECEIPTS

Indian Government Railways

	1947-8	1948-9
	In crores of rupees	
Passenger earnings	66·12	83 83
Other coaching earnings . .	15·38	18·83
Goods earnings	81·45	108·29
Sundry earnings . . .	3·44	4·09
Suspense	–3·26	–1·94
TOTAL .	163·13	213·10
Less—Earnings of worked lines .	3·28	4·32
Net traffic receipts . . .	159·85	208·78

Taking all Class I Railways together, the distribution of passenger earnings by various classes in 1948-9 was as follows :—

PASSENGER EARNINGS BY CLASSES

Class I Railways

	In lakhs of rupees 1948-9	
	for nine months	for three months
First class	1,82	...
Air conditioned	...	2
Second class	5,30	...
Class I	...	1,00
Inter class	4,35	...
Class II	...	1,90
Third Class	57,47	...
Class III	...	16,94
TOTAL	68,94	19,86

The details of traffic earnings of individual railways are given in Statements 3 and 6 of Volume II of this Report. The working expenses of each railway are given in Statements 3 and 7 of Volume II of this Report.

24. Working expenses.—The working expenses of each railway are given in Statements 3 and 7 of Volume II of this Report.

25. Losses and Gains.—The statement below compares the net gain or loss of the year on each railway with that of the previous year :—

GAINS OR LOSSES ON INDIAN GOVERNMENT RAILWAYS

Railways	1947-8	1948-9
		In lakhs of rupees
Assam	–1,22	–3,48
Bengal Nagpur	–4,39	–1,09
Bombay Baroda and Central India .	2,09	8,02
Darjeeling Himalaya . . .	...	– 14
East Indian	–8,18	– 11
Eastern Punjab	– 55	1,48
Great Indian Peninsula . .	66	7,70
Madras and Southern Mahratta . .	3,25	2,11
Oudh Tirhut	–5,75	56
South Indian	3,80	2,24

26. Railway Betterment Fund.—The fund opened with a balance of Rs. 14,38 lakhs on 1 April 1948. The appropriation made to this fund during the year was Rs. 44 lakhs on account of interest accrued on balances and Rs. 84 lakhs from the Railway surplus. The expenditure met from out of this fund during the year was Rs. 2,33 lakhs and the closing balance of the fund on 31 March 1949 amounted to Rs. 13,33 lakhs.

27. Revision of Railway Separation Convention.—During the Budget Session of the Constituent Assembly (Legislative), notice was given of a motion to elect a Committee of nine members to serve along with the Honourable the Minister for Transport and Railways and the Honourable Minister for Finance, to review the working of the Convention adopted by the Central Legislature in 1924 for the separation of Railway from General Finance, to examine the constitution and administration of the Railway Depreciation Fund, the Railway Betterment Fund, as well as other ancillary matters and to make recommendations before 31 December 1949.

B.—GENERAL RESULTS OF WORKING OF ALL INDIAN RAILWAYS.

28. Analysis of earnings.—The total earnings for the year 1948-9, of all Class I, II and III railways falling in the Indian Union, including those in which the Government of India have no financial interest, amounted to Rs. 233·83 crores, of which Rs. 112·26 crores or 48·0 per cent was from goods traffic, Rs. 92·91 crores or 39·7 per cent, from passenger traffic and Rs. 28·66 crores or 12·30 per cent from parcels, luggage and other miscellaneous sources of revenue.

29. Passenger earnings.—The passenger earnings for the year totalled Rs. 92·91 crores. Excluding, for purposes of comparison with 1947-8, the figures of the Assam, East Indian (N. G.) and Eastern Punjab Railways which came into being during the course of 1947-8, the passenger earnings of all Indian Railways during 1948-9 increased by Rs. 13·94 crores or 19·80 per cent to Rs. 84·34 crores. The number of passengers carried increased by about 77 millions, an increase of 7·56 per cent. Passenger miles increased by 2,902 million representing an increase of about 8·91 per cent.

Variations in the passenger traffic and earnings of the Budget lines, excluding the Eastern Punjab and Assam Railways, are indicated below :—

PASSENGER TRAFFIC AND EARNINGS ON BUDGET LINES IN 1948-9 COMPARED WITH 1947-8

Railways	Increase (+) or decrease (—) as compared with 1947-8	
	Passengers carried in millions	Earnings in lakhs Rs.
Bengal Nagpur	+ 6·3	+1,65
Bombay, Baroda and Central India	+21·6	+2,15
East Indian	+ 9·1	+4,51
Great Indian Peninsula	+29·3	+2,77
Madras and Southern Mahratta	+ 1·1	+ 37
Oudh Tirhut	+15·8	+1,86
South Indian	− 9·6	− 20

Detailed figures of the number of passengers carried, passenger miles and earnings are given in Summary X and Statements Nos. 12 and 36 of Volume II of this Report.

30. Goods earnings.—The total goods earnings during 1948-9 amounted to Rs. 112·26 crores. Excluding the Assam, East Indian (N. G.) and Eastern Punjab Railways and as compared with the position during 1947-8, earnings from goods traffic on all railways increased by Rs. 23·50 crores or 28·49 per cent.

The tonnage of goods carried increased by 6·2 million tons or about 8·69 per cent, and each ton was carried on an average a distance of 280·1 miles as compared with 280·5 miles during 1947-8. Net ton miles, on the other hand, registered an increase of 1,712 millions or 8·52 per cent over last year.

The increased earnings were derived mainly from the following commodities : fuel, oil fuel, firewood and other fuel, rice not in the husk, gram and pulses, wheat, marble and stone, salt, sugar, refined and unrefined, wood, unwrought, oilseeds, cotton raw pressed, petrol (in bulk), cement, cotton manufactured, fodder, fruits and vegetable fresh, *gur*, jaggery, molasses, jute raw, iron and steel wrought, tobacco, provisions and other commodities, livestock, and railway materials. Decreases were substantial in fuel for foreign railways and home line constructions, jowar and bajra, and military traffic.

The principal variations in goods traffic on some railways are shown below :—

VARIATIONS IN GOODS TRAFFIC IN 1948-9 AS COMPARED WITH 1947-8

Figures in thousands

Railways	Variations in 1948-9 as compared with 1947-8 *Tons carried*
Bengal Nagpur	– 549
Bombay, Baroda and Central India	+ 17
East Indian	+5,460
Great Indian Peninsula	+ 757
Madras and Southern Mahratta	+ 113
Oudh Tirhut	+ 247
South Indian	+ 361

Detailed statistics of goods traffic will be found in Summary X, Statements Nos. 13, 29 and 36 respectively of Volume II of this Report.

31. Measures relating to statistics and statistical organization.— Soon after partition, certain documents relating to inter-railway transactions became unavailable and statistical work on railways received a serious setback, resulting in considerable accumulation of arrears. Steps were taken during the year for pulling up the arrears and for timely compilation and issue of returns. Improvement as the result of the action taken was realized only in the following financial period.

During the year under review, two meetings of Statistical and Compilation Officers were held. One was at Bangalore in August 1948 with the Financial Commissioner, Railways, presiding. The other was at Delhi, in January 1949, with the Chief Operating Superintendent, East Indian Railway, as Chairman. At these meetings the difficulties experienced by railways in the prompt collection and accurate compilation of statistics on a uniform basis were discussed. Reference should also be made of the periodical meetings of operating heads of Railways with the Member, Transportation, Railway Board, presiding. At these meetings special attention was given to the results of operating efficiency.

Individual railways took also various special measures to promote better study and utilization of railway statistics. Thus, on the Madras and Southern Mahratta Railway, a graph room was opened at the headquarters exhibiting over a hundred graphs showing daily, periodical and monthly figures of performance. It was open to officers and subordinates of all departments who were specially invited to inspect and study the graphs. Similar arrangements for the exhibition of important results had been made during the year by the Bengal Nagpur Railway also. Proposals for similar chart rooms were under way on the South Indian and certain other railways. Another important proposal under active consideration during the year was the training in statistics of probationary officers and staff on railways.

CHAPTER III

NEW CONSTRUCTION AND ENGINEERING WORKS

32. Capital Expenditure.—At the end of March 1949, the total capital-at-charge of all railways including lines under construction amounted to Rs. 775·77 crores, of which Rs. 701·89 crores was the capital-at-charge of Indian Government Railways, inclusive of the premia paid on the purchase of certain companies' lines. The balance of Rs. 73·88 crores represented the capital raised by Indian States, Companies and District Boards.

The figure of capital-at-charge of Indian Government Railways is provisional pending closing of the pre-partition accounts, and comprises the following :—

	£
Liability and debt incurred in the purchase of railways .	131,164,798
Less liability and debt cancelled by the operation of annuities and sinking funds	23,756,284
Net amount outstanding	107,408,514

	Rs.
Direct expenditure by Government (in thousands) . .	5,58,67,60
Amount in sterling converted into rupees (in thousands) .	1,43,21,58*
GRAND TOTAL .	7,01,89,18

By far the greater portion of this amount, namely, Rs. 6,99,77,74,000, is Government Capital and only Rs. 2,11,44,000 is owned by Indian States, etc.

The total capital outlay on all railways during 1948-9 was Rs. 36·10 crores of which Rs. 34·40 crores related to Indian Government Railways.

The distribution of the capital outlay in 1948-9 over the different Indian Government Railways is shown in the summary below :—

CAPITAL OUTLAY ON INDIAN GOVERNMENT RAILWAYS DURING 1948-9

(Figures in lakhs of rupees)

Railways	Open Lines			New Lines			GRAND TOTAL
	Works, etc.	Rolling-stock	Total	Works, etc.	Rolling-stock	Total	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Assam Rail Link Project .	..	..	..	3,18	..	3,18	3,18
Assam	78	3	81	..	..	..	81
Bengal Nagpur . . .	83	6	89	3	..	3	92
Bombay, Baroda & Central India	2,03	16	2,19	..	..	..	2,19
East Indian	10,38	1,32	11,70	76	..	76	12,46
Eastern Punjab . . .	1,66	46	2,12	5	..	5	2,17
Great Indian Peninsula . .	4,48	1,83	6,31	89	..	89	7,20
Madras & Southern Mahratta .	68	..	68	..	..	..	68
South Indian . . .	78	14	92	..	..	..	92
Oudh Tirhut	1,34	8	1,42	..	..	..	1,42
Darjeeling Himalayan . .	1,10	..	1,10	..	..	..	1,10
Other Indian Railways . .	1,35	..	1,35	..	..	..	1,35
TOTAL .	25,41	4,08	29,49	4,91	..	4,91	34,40

* The amounts, £2,575,000, £2,000,000, £1,500,000 and £1,000,000, representing the share capital respectively of the Great Indian Peninsula, Bombay, Baroda and Central India, Madras and Southern Mahratta, and South Indian Railways (the first two amounts being paid off during 1925-6 and 1941-2 respectively, and the last two, during 1944-5) have been converted at the appropriate average rate of exchange for those years, and the balance of £100,333,514 at the rate of 1*s*. 6*d*. to the rupee.

33. Mileage of lines opened or sanctioned in 1948-9.—No new lines were sanctioned for construction during the year.

The following new lines, representing an addition of 157·82 miles, were opened to public traffic during the year.

MILEAGE OF LINES OPENED OR SANCTIONED DURING 1948-9

Railway	Name of line	Mileage	Date of opening
Eastern Punjab . . .	Rupar-Talaura . . .	34·37*	9-10-48
Great Indian Peninsula . .	Restoration of Bhimsen Khairada line.		
	(1) Bhimsen-Hamirpur Road .	29·88	1-9-48
	(2) Yamuna South Bank Bhaiwa Sumerpur.	6·57	1-9-48
	(3) Hamirpur Road Yamuna South Bank.	7·50	9-3-49
Nizam's State	Hadgaon Road-Himayatnagar section of Mudkhed-Adilabad line.	11·42	27-11-48
Oudh Tirhut	Assam Rail Link Project Conversion from N. G. to M.G.		
	(1) Kishanganj-Thakurganj .	31·41	21-6-48
	(2) Thakurganj-Naksalbari .	20·73	21-7-48
Rajasthan	Kheroda-Kanor section of Mavli Jn.-Bada Sadri line.	15·94	18-8-48
	TOTAL .	157·82	

* This is inclusive of the length of 22·30 miles shown as opened to goods traffic on 2-2-1948 in the preceding year's Report.

34. Lines under construction during 1948-9.—Nine new lines were under construction during the year, adding up to a total mileage of 532·14. The details of the lines are shown below :—

NEW LINES UNDER CONSTRUCTION

Railway	Name of the section	Mileage under construction
East Indian	Barwadih-Sarnadih section of Barwadih-Chirimiri (Bijuri) Project.	41·28
Gaekwar's Baroda State	Vijapur-Ransipur	13·92
	Protapnagar-Dholka	67·30
Jaipur State	Sanganer-Malpura-Sawai Mangarh . .	75·66
Nizam's State . . .	Mudkhed-Adilabad	100 6 9[1]
Oudh Tirhut & Assam . .	Assam Rail Link Project . . .	145 00[2]
Rajasthan	Mavli Junction-Bada Sadri . . .	51·00[3]
Saurashtra . . .	Pipli-Gop	22·63
	Dahinsara-Malia	14·66

[1] Out of this, 24·26 miles between Mudkhed and Hadgaon Road were opened in 1947-8 and 11·42 miles between Hadgaon Road and Himayatnagar were opened in 1948-9.

[2] Out of this, 52·14 miles between Kishanganj and Naksalbari was opened in 1948-9 after conversion from Narrow Gauge to Metre Gauge.

[3] Out of this, 17·55 miles between Mavli Junction and Kheroda were opened in 1947-8 and 15·94 miles between Kheroda and Kanor were opened in 1948-9.

35. New surveys.—Five surveys, aggregating about 500 miles, were sanctioned during the year. The most important of these are the Kandla-Deesa-Raniwara, which runs to a total length of 220 miles passing through Cutch and Rajputana, to provide a metre gauge connection to Kandla Port, and the Chamrajanagar-Mettupalayam, a 90-mile line to connect Mysore and South Indian Railway metre gauge system. The Administration undertaking the surveys, the proposed gauge and mileage are shown in the following statement.

NEW SURVEYS SANCTIONED DURING 1948-9

Railway	*Gauge*	*Mileage*
Bombay, Baroda and Central India.		
(1) Kandla-Deesa-Raniwara	3′3⅜″	220
East Indian.		
(2) Branch lines and sidings for the development of Karanpura Coalfields	5′6″	25
(3) Mirzapur-Chopan-Pipri Reconnaissance .	5′6″	90
Oudh Tirhut.		
(4) Kumarganj-Balurghat	3′3⅜″	45
Kumarganj-Barsoi	...	30
South Indian.		
(5) Chamrajanagar - Satyamangalam - Mettupalayam	3′3⅜″	90
TOTAL .		500

36. Lines closed during 1948-9.—No new lines were closed during the year for commercial reasons.

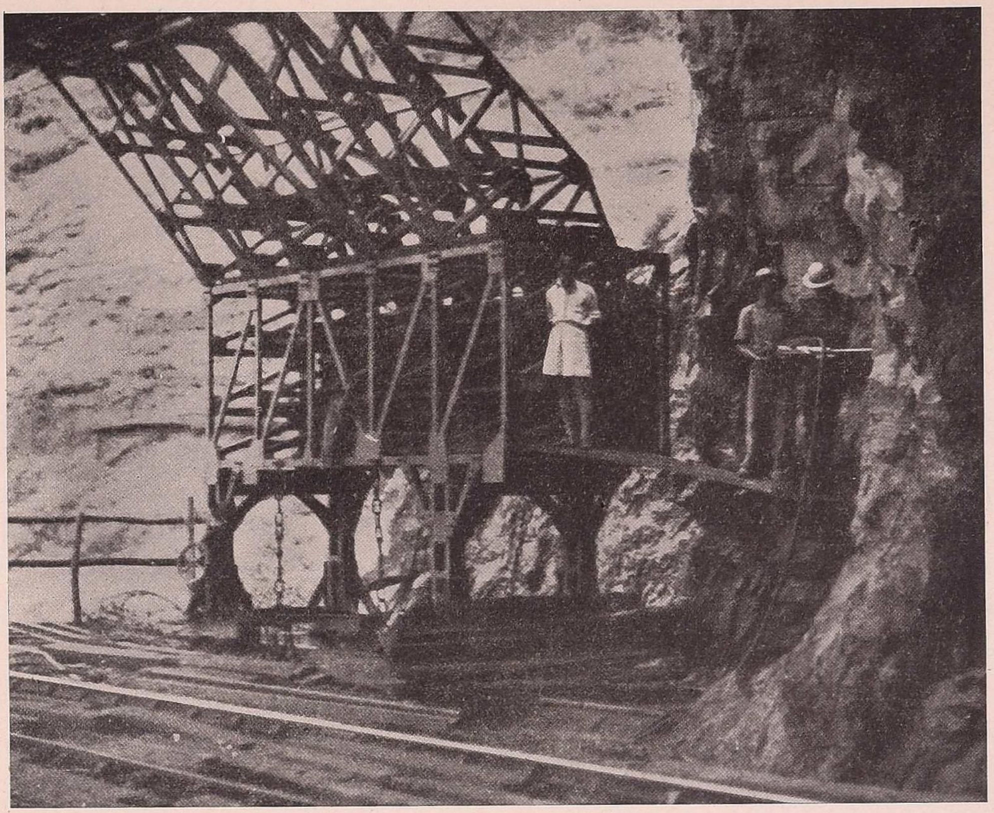
37. Engineering works.—Several important works were carried out or sanctioned during 1948-9 for increasing line capacity, improving operational facilities, etc. The more important works are briefly mentioned below.

38. Open line improvements.

(1) *Doubling of the Anand Barejadi Section—Bombay, Baroda and Central India*—(Cost, Rs. 91 lakhs).—Two large streams of traffic bound for Ahmedabad, one from Bombay *viâ* Baroda and Anand, consisting mainly of machinery, imported goods, and cotton, and the other from the east *viâ* Godhra and Anand consisting mainly of coal and iron, have to be carried over the Anand-Ahmedabad section. While the 11-mile length between Ahmedabad and Barejadi is a double line, considerable difficulty is felt in dealing with the traffic on the single line section between Anand and Barejadi. Moreover, with the construction of the new Kandla Port in Cutch, this section will also have to carry the traffic from that port to the east *viâ* Ahmedabad, Anand and Godhra. It was, therefore, considered essential to increase the capacity of the Anand-Barejadi section by providing a double line.

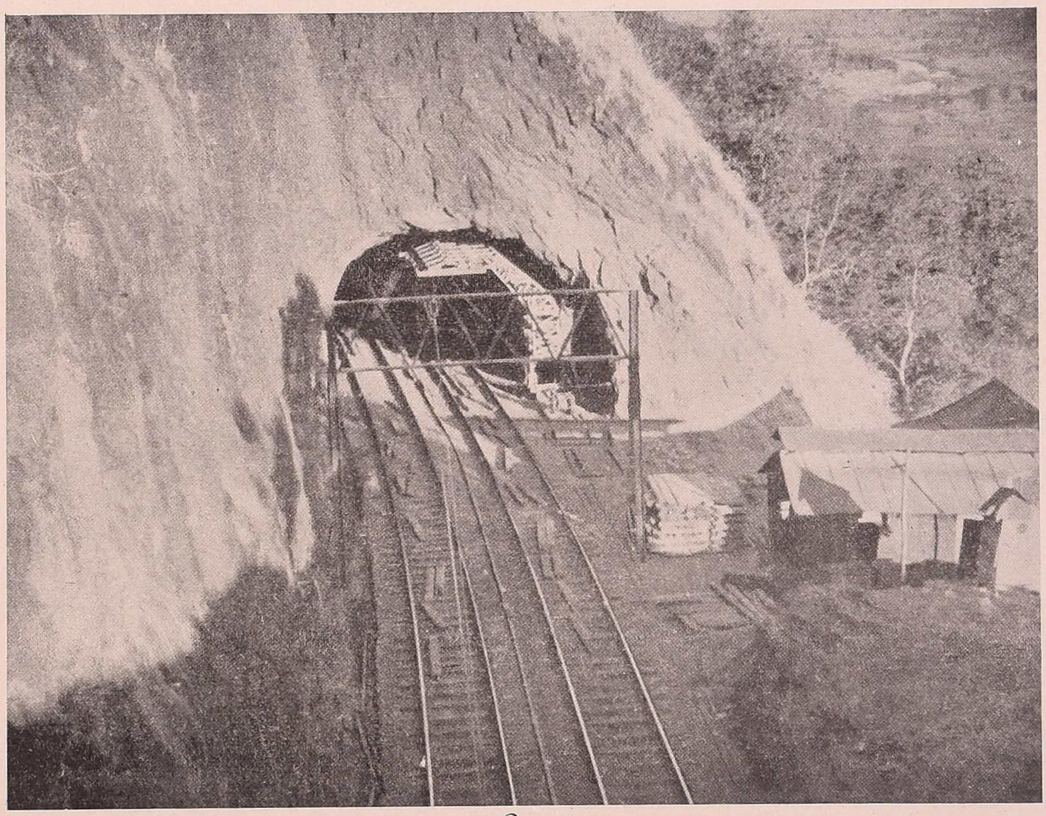
(2) *Additions and alterations to the goods yard at Kotah—Bombay, Baroda and Central India*—(Cost, Rs. 2,17,372).—The existing yard accommodation at Kotah was found to be inadequate to cope with the increase in goods traffic owing to diversion of traffic from Karachi to Bombay. The proposed additions and alterations to the goods yard at Kotah will facilitate quicker movement of traffic.

(3) *Reopening of crossing stations at Kurlasi and Alnia—Bombay, Baroda and Central India*—(Cost, Rs. 2,40,000).—Owing to a considerable increase in the traffic between Bombay and Delhi in consequence of the diversion from Karachi to Bombay, these crossing stations were reopened to facilitate movement.



TUNNEL WIDENING, G. I. P. RAILWAY. CANTILEVER STAGING TUNNEL NO. 22 BHIN GHAT, MEN DRILLING THE TUNNEL SIDE PREPARATORY TO BLASTING.

TUNNEL WIDENING, G. I. P. RAILWAY. CANTILEVER STAGING IN POSITION INSIDE TUNNEL NO. 13, BHIN GHAT, FOR WIDENING OF THE TUNNEL ON THE 'DOWN' SIDE.



(4) *Improvements in Amritsar Yard—Eastern Punjab*—(Cost, Rs. 1,86,000).—It was necessary to carry out certain additions and alterations in the Amritsar yard to provide better operational facilities for the movement of engines and rakes.

(5) *Partial doubling of the Mathura-Delhi Section—Great Indian Peninsula and Eastern Punjab*—(Cost, Rs. 103·65 lakhs).—The Delhi-Mathura Section has been a serious bottleneck to the movement of traffic between Bombay and Delhi and beyond. The position worsened with the partition of India which brought a considerable change in the trend of traffic. The traffic which used to be routed normally *viâ* Karachi had to a great extent to be diverted *viâ* Bombay, and the traffic between Bombay and Delhi and East Punjab, in consequence, increased considerably. It was, therefore, decided to provide partial doubling on this section in order to increase its line capacity. Out of 43·46 miles proposed to be doubled, 6·75 miles are on the Eastern Punjab Railway and the remaining on the Great Indian Peninsula Railway.

(6) *Improvements to traffic operating facilities on the North East Line between Madras and Vizagapatam—Madras and Southern Mahratta*—(Cost, Rs. 25,91,800).—With a view to equip this single line section to deal with the existing traffic satisfactorily and also the extra coal traffic—diverted by sea—it was decided that additional operating facilities, such as rail level platforms, second loops, etc., should be provided at a number of stations on this section.

(7) *Provision of three crossing stations between Tirupattur and Kagankarai, Kagankarai and Samalpatti, and Sankaridrug and Kalipatti Road stations on the Jalarpet-Erode Section—South Indian*—(Cost, Rs. 6,75,000).—In order to prevent delays to movement of trains on this section it was decided to reduce the length of some of the block sections by the provision of crossing stations in between the existing stations.

39. Important works sanctioned.

(1) *Diversion track between mile 38/T. P. 7 and mile 40/T. P. 21 on Moradabad-Delhi Branch*—(Cost, Rs. 7,71,218).—The River Ganga formed an embayment dangerously close to the existing approach bank. In order to safeguard the continuity of the line of communications if the river eroded further and cut away the embankment, it was decided to retire the line ½ mile further away from this river.

(2) *Assisted siding at mile 48/14 between Paradol and Chirimiri stations on the Central India Coalfields Railway to serve Messrs. Central Indian Coalfields Ltd.'s, Sajapahar Colliery*.—(Cost, Rs. 5,92,560); *assisted siding on the Sanctoria Branch to serve Messrs. Bengal Coal Co. Ltd.'s Chinakuri Pits Nos. 1 and 2*.—(Cost, Rs. 4,60,374).—These sidings were required for the development of coalfields in the areas concerned.

(3) *Provision of siding facilities for the Fertiliser Factory at Sindri near Pathardih (Stage III)*—(Cost, Rs. 16,98,435).—The third and final stage of the work in connection with the provision of the assisted siding for the Fertiliser Factory at Sindri consists of the provision of a marshalling yard between the factory and the station on the main line. Work on Stages I and II, costing Rs. 18,30,332 and Rs. 2,15,496 respectively, had been sanctioned previously.

(4) *Port Arterial Siding, assisted and private siding to serve Messrs. Scindia Steam Navigation Co. Ltd.*—(Cost, Rs. 8,25,978).—This siding was required to assist Messrs. Scindia Steam Navigation Co. Ltd., in the movement of heavy steel material and other equipment expected by them at Vizagapatam in connection with their shipbuilding programme.

(5) *Development of Quarry at Rattamalai, South Indian Railway*.—(Cost, Rs. 5,32,772). In order to obtain a steady and adequate supply of granite ballast and rubble required for various works on the railway, it was decided to develop this quarry and work it, utilizing up-to-date mechanical quarrying and stone crushing plant.

(6) *Construction of a bridge across the Ganga at Mokameh, near Patna, East Indian Railway*—(Cost, Rs. 12 crores). All traffic between North and South Bihar, *i.e.*, on either side of the Ganga has at present to be ferried. This constitutes a serious bottleneck even for existing traffic. With the increase in traffic visualized with industrialization, particularly of the Monghyr area, the present method would be totally inadequate. It was, therefore, considered necessary to provide a bridge across the Ganga at Mokameh to facilitate movement of traffic.

The projected bridge will be the longest over the Ganga and will have 15 spans of about 400 feet and a total length of about 6,300 feet. A clearance of 40 feet above mean flood level will be provided to facilitate movement of steamers. The bridge will carry a single line broad gauge track and, if the road authorities so desire, also a 24 feet roadway on the upper deck. Out of the anticipated cost of Rs. 12 crores, Rs. 5 crores will be the portion debitable to the Road Authorities. A special organization under an Engineer-in-Chief for constructing the bridge was formed during the year and preliminary work, *e.g.*, preparation of designs, collection of materials, etc., was put in hand.

40. Bridge strengthening and protection programme.

Bombay, Baroda and Central India Railway.—(*a*) Strengthening Girna Bridge at mile 186/8-14 (Cost, Rs. 1,09,240); (*b*) B. G. System— Regirding and reconditioning girders and rebuilding sub-structures of bridges not strong enough to carry 20-ton axle load (XC engine), (Cost, Rs. 1,34,67,000).

(*a*) On the Girna Bridge, a permanent speed restriction of 10 m.p.h. was enforced as its girders were not strong enough to carry the heavier types of engines. As the bridge is situated on an important section, linking the main lines of the Great Indian Peninsula and the Bombay, Baroda and Central India Railways, it was decided to remove the bottleneck by bringing the bridge up to the requisite standard.

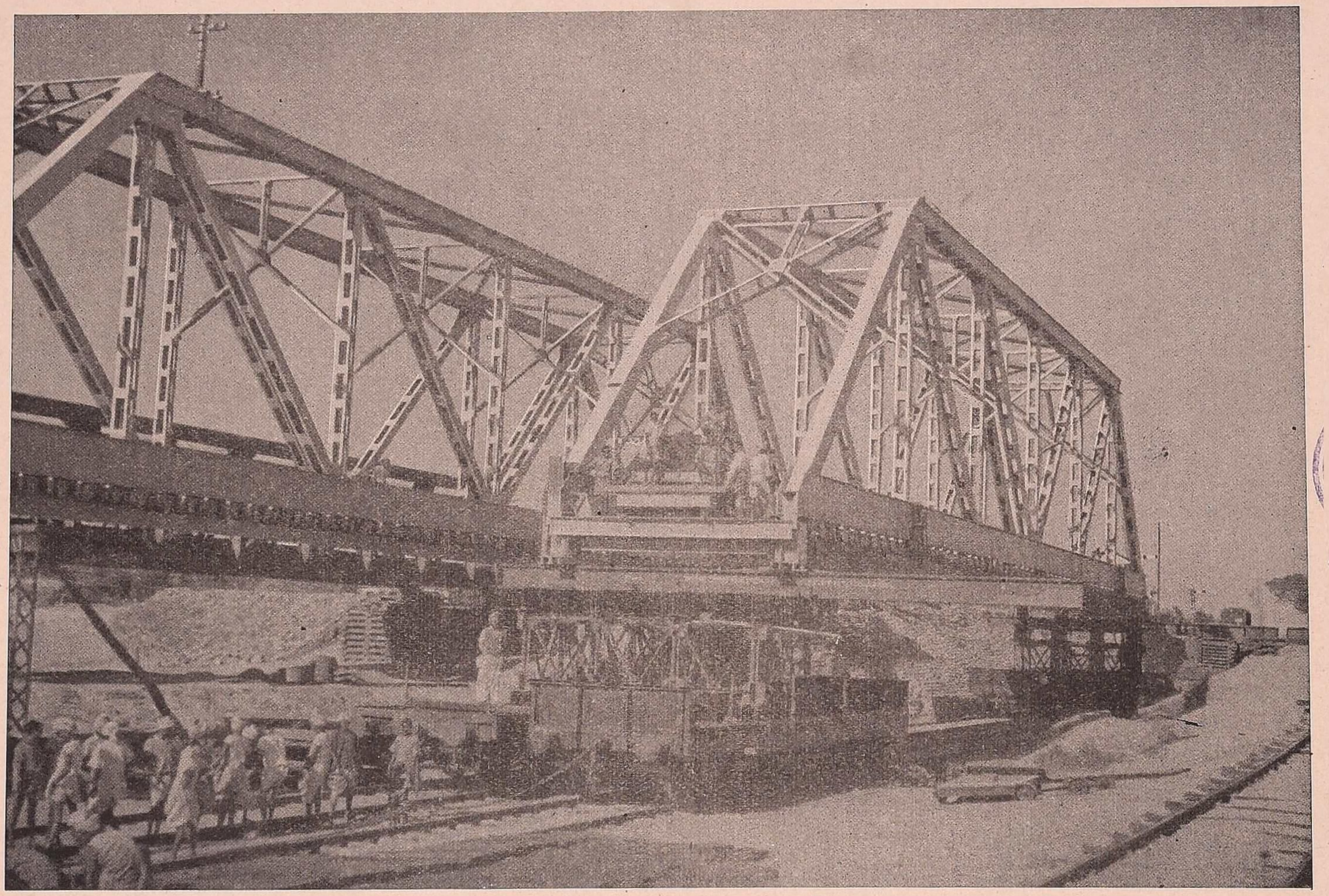
(*b*) Though the track on the Bombay-Viramgam line and the Baroda-Mathura main line is up to the main line standard and capable of taking the heavier and faster types of engines, most of the girders are either only up to the Branch line standard or weak, and consequently overstressed to the maximum permissible limit. It was, therefore, necessary to replace these girders on these sections as soon as possible.

The abutments and piers of the bridges mainly on the Bombay-Ahmedabad section also required rebuilding. On account of their age, the condition of some of these had steadily deteriorated. In a few cases cracks had developed, and in other cases abutments had tilted forward. Early replacement of such abutments and piers was required on considerations of safety.

Eastern Punjab Railway.—Rebuilding guide bunds, raising approaches and strengthening of the masonry of piers and abutments of East Beyne girder bridge No. 25 at mile 8/13-14 on Jullundur City-Nakodar section. (Cost, Rs. 4,70,391). This bridge was heavily damaged during the floods in September 1947. The girders were partially submerged in water, the highest flood level being about 2 feet below rail level. It was, therefore, decided to raise the bridge by 4 feet and to rebuild guide bunds, raise approaches, and strengthen the masonry of piers and abutments, to suit the highest flood level.

East Indian Railway.—Extension of left guide bank of Ganga Bridge, at Garhmukhtesar—Bridge No. 52 (Cost, Rs. 16,46,131). The existing left guide bank being short, the river developed a serious embayment dangerously close to the railway line. It was, therefore, decided to lengthen the guide bank by 2,000 feet with an armoured curved head.

Great Indian Peninsula Railway.—Oalee Bridge—Rebuilding of two piers of 8-30 ft. at mile 517 J near Bankhedi on Itarsi-Jubbulpore Section. (Cost, Rs. 1,44,371). Piers Nos. 2 and 3 of this bridge were damaged by the exceptionally heavy rains in August 1947. The gap of 100 ft. between Piers No. 1 and No. 4 was temporarily spanned to maintain through communication. The piers had to be rebuilt.



REGIRDERING THE BRIDGE OVER THE LANGULIYA RIVER AT DUSI—ONE OF THE 150 FT. CLEAR SPANS IN TRANSIT IN THE RIVER BED AND PASSING THE FIRST SPAN WHICH HAS BEEN PREVIOUSLY INSTALLED IN THE BRIDGE.

41. Permanent way renewals and welding of rail joints.—Some of the important new works, besides the works in progress, which were included in the Track Renewal Programme of the year are referred to below.

(*a*) *Bengal Nagpur Railway.*—Re-sleepering 23·00 miles corroded steel sleepers (N+3) with C. I. Plate (C. S. T. 9) sleepers (N+2) and Duplex Rail-Free joint sleepers on the E. C. section.

(*b*) *Bombay, Baroda and Central India Railway.*—Re-conditioning permanent way between Bombay and Ahmedabad.

Replacing C. I. pot sleepers (N+1 density) by C. S. T. 9 sleepers (N+3) density between miles 157-3/4 to 170 and miles 197-3/4 to 199 in the Down line and between miles 246½ to 277 on the main lines on Bombay-Ahmedabad section.

Increasing the density of steel trough sleepers from (N+1) to (N+3) between miles 277 and 308 on Baroda, Ahmedabad section.

(*c*) *East Indian Railway.*—Re-sleepering between Bandel and Bhadreshwar for track circuiting on Howrah Division.

Re-sleepering with new C. I. and steel sleepers 51 miles on Asansol Division.

(*d*) *Great Indian Peninsula Railway.*—Bina—Katni section—Relaying of 80 lbs. FF, IMR track on C. I. pot sleepers with second class 100 lbs. B. H. 33 ft. cropped rails with new 18″ long ' E ' type fish plates and fish bolts and nuts, and new keys on C. I. pot sleepers between miles 702·40 and 733·152 (excluding turnouts), amounting to 30·60 track miles.

Relaying of old 100 lbs. B. H. track on timber and pot sleepers with 2nd class 100 lbs. B. H. cropped 33 feet long rails with new standard ' E ' type 20″ long fish plates and new fish bolts and nuts, and new keys on 2nd hand C. I. pot sleepers with 153 lbs. troughs at joints to N+4 density throughout, except in tunnels, rock cuttings and green banks in new diversion where the track was laid on wooden sleepers on Bhore Ghat on Up and Down lines, equalling a length of 29·198 track miles.

Relaying of old 100 lbs. B. H. track on timber and pot sleepers with 2nd class 100 lbs. B. H. cropped 33 ft. long rails with new standard 20″ long ' E ' type fish plates and new fish bolts and nuts and new keys on 2nd hand C. I. pot sleepers with 153 lb. troughs at joints to N+4 density throughout except in tunnels, rock cuttings and green banks in new diversion where the track was laid on wooden sleepers on Thull Ghat on Up and Down lines, amounting to 19·42 track miles.

(*e*) *Welding of rails.*—During the year some welding of rail joints was carried out on a length of 14 miles on Baroda-Ahmedabad section of the Bombay, Baroda and Central India Railway, and about 4 miles on the Grand Chord of the East Indian Railway.

42. Locomotive Manufacturing Works Project.—As stated in the report for last year it was decided that the Locomotive Manufacturing Workshop should be located at Mihijam near Asansol in West Bengal. This site has since been renamed as Chittaranjan in memory of the late Deshbandhu Chittaranjan Das.

Out of about 4,000 acres of land required for the project, over 3,000 acres were acquired and taken possession of during the year. Preliminary work was started on the various shops, namely, Light Machine Shop, Pattern Shop, Heavy Machine Shop, etc. The entire workshop will consist of seven shops, covering an area of 760,000 sq. ft. and involving the use of 12,000 tons of steel work.

In addition to the workshop proper, work was proceeding on the provision of a township for providing accommodation for about 6,000 employees. The township will consist of three main groups, each being self-contained in regard to bazaars, schools, dispensaries, playing fields, etc. All the houses in the township will have a continuous supply of filtered water and water-borne sewage. A fair sized well-equipped hospital, brightly lit streets, and adequate recreational facilities are also to be provided.

With the progressive completion of the shops and the installation of the machinery therein, the production of component parts of locomotives is expected to start in 1950.

43. Wireless communication on railways.—Several additional wireless circuits have been established during the year on the Indian Government Railways. Apart from serving as an alternative means of communication during emergencies they also provide considerable relief to the heavily congested land lines.

Equipment.—The six-year (1949-55) replacement programme for wireless transmitters type SCR 399, estimated to cost Rs. 22 lakhs, has, on reconsideration by the Board, been postponed as the present sets are still serviceable and can, with proper maintenance and supply of spare parts, be kept in service for some more years. Arrangements have, however, been made to supply eleven new transmitters to make up the deficiency in the number of sets already sanctioned to the railways. These would facilitate the establishment of projected W/T circuits.

Current developments.—Messrs. Hindustan Airways Co., Ltd., the agents for Messrs. Bendix Corporation of America, have arranged for the supply of type MRT Rail Road, Very High Frequency Radio Equipment, 25 watt, 160 Mc/s., for radio telephone communication between the yard-master, shunters and gunners. The equipment is expected shortly and will be installed in the marshalling yard at Moghalsarai on the East Indian Railway.

On account of frequent thefts of copper wire and also with a view to provide better facilities for communications, arrangements are being made to provide radio telephone service at Tatanagar to form a circuit with Khargpur, Adra and Chakradharpur and also for a W/T circuit between Adra and Khargpur on the Bengal Nagpur Railway.

The two new medium power wireless stations at Samastipur and Katihar on the Oudh Tirhut Railway are reported to have been invaluable during thefts of copper wire, in the unprecedented floods of September 1948, and for maintaining communications on the East Pakistan border.

Under the Shipping Act, for purposes of safety of the boat passengers in cases of emergency, wireless communication was required to be established on the two Indo-Ceylon Ferry Steamers, *S. S. 'Irwin'* and *S. S. 'Goschen'* plying between Dhanushkodi and Talaimanar on the South Indian Railway. The supply of wireless sets for this installation is awaited.

To facilitate the work of construction on the Assam Rail Link Project wireless communication has been provided between the headquarters of the Engineer-in-Chief at Kurseong and his district offices at Alipurduar, Fakiragram and Siliguri and also between Kurseong and Pandu.

44. Improvement to line Telecommunication on Railways.—Fairly good progress has been made as regards the Telecommunication (Line) Improvement Schemes carried out by the Postal and Telegraphs Department on behalf of railways. The pending demands for the administrative trunk circuits, deputy and section control circuits and telegraph circuits have to a great extent been completed by the Post and Telegraphs Department and taken over by the railways. The railway administrative trunk lines on the Great Indian Peninsula Railway connecting Bombay with Delhi, and on the South Indian Railway between Trichinopoly and Villupuram have been completed. The lines on the East Indian Railway between Moradabad and Delhi are nearing completion.

Thefts of copper wire.—The position with regard to thefts of copper wire has been rather acute on the East Indian, Bengal Nagpur and Oudh Tirhut Railways. The Post and Telegraphs Department have taken these cases up at a fairly high level with the Provincial Governments and, despite the efforts of the Police, this menace still continues. The Post and Telegraphs Department are also endeavouring to minimise the duration of the resultant failures by repairing the damages promptly. These failures, however, continue to cause considerable concern to the Board and the Railway Administrations.

Public call offices.—Public telephones for the convenience of passengers have been provided at a number of railway stations.

Railway Telecommunication Committees.—Railway Telecommunication Committees consisting of representatives of the Post and Telegraphs Department and the Railways have been established at many centres. Their meetings, which have been held regularly, have brought about commendable liaison and collaboration between the railways and the Post and Telegraphs Department and has tended to improve the efficiency of railway circuits.

Canalizing of all railway demands for telephone equipment through I. T. I.—On account of an agreement between the Government of India and the Automatic Telephone and Electric Company Limited of England all telephone equipments including railway control apparatus but excluding manual exchange boards which are manufactured in the Post and Telegraphs Workshops have now to be obtained, subject to certain conditions, exclusively from this firm.

CHAPTER IV

TRANSPORTATION

A. OPERATING

45. Operating, General.—During the opening summer months of the year, there was a general set-back in operation caused mainly by heavy casualties among engine crew, many of whom were experiencing their first summer on the footplate of an engine. With the closing of the summer season, the position steadily improved all round.

There was progressive improvement in the punctuality of passenger trains from June onwards, and this suffered a temporary set-back in December 1948 on account of the severe cyclone in Bombay affecting the Great Indian Peninsula and Bombay, Baroda and Central India Railways, and accidents and engineering restrictions on other railways.

A number of additional trains were introduced on the Eastern Punjab and other railways. Among the more important of such trains was the *Janata* Express between Patna and Delhi on the East Indian Railway, introduced with effect from 1 October 1948. This is believed to be the first train providing fast service intended exclusively for third class passengers. Another important train introduced was the one between Patna and Tatanagar from 1 April 1948 on the East Indian and Bengal Nagpur Railways, affording through communication between the capital and important industrial towns of Bihar.

A number of trains were accelerated. The Grand Trunk Express running between Delhi and Madras made a substantial reduction in the overall journey time with effect from 15 November 1948.

Of the 378 coaches on loan with the Ministry of Defence on 7 April 1948, 274 were released for public traffic. The remaining 104 were still with that Ministry on 7 April 1949.

Another important change during the year was the introduction of new classes of travel as from 1 January 1949. It was decided that in addition to the air-conditioned service, there should be maintained only three classes on the main lines, namely, Classes I, II and III, instead of the former four classes, namely, First, Second, Inter and Third.

In connection with the Congress Session at Jaipur, 23 special trains on the broad and 102 on the metre gauge were operated for carrying passengers travelling to and returning from the Session. Besides these, 1,782 wagons of stores, materials, and other articles were also moved to Jaipur and Gandhi Nagar, from nearly all over the country.

On the advice of the Central Board of Transport, arrangements came into force from January 1949, whereby one hundred per cent transport was made available for both the raw materials and finished products of certain basic industries, namely, iron and steel, textiles, and cement. Foodgrains, of course, continued to receive high priority and special attention.

Famine conditions which developed in Gujarat and Saurashtra called for large-scale movements of fodder and foodgrains from the East Punjab, East Punjab States, Central Provinces, Bombay, etc., and all possible assistance was given towards meeting the situation.

To step up the movements of petroleum traffic, the Tank Wagon Organization was brought directly under the Railway Administrations. Regular special trains were planned for the movement of this traffic from Calcutta and Bombay.

To sum up, while no essential industry was allowed to suffer, as far as transport facilities were concerned, the total demands still continued to outstrip the supply of wagons.

46. Transport of coal.—During the year under review, the control and distribution of coal continued as before, through the Coal Commissioner's office under the administrative control of the Ministry of Industry and Supply, Government of India.

The movement of coal from all the coalfields, except Singareni and Talchar, showed an improvement during 1948-9 as compared with the previous year.

The despatches of coal to the Calcutta Docks for onward shipment to various consumers in India and abroad increased very considerably during the year. A record figure of 500 wagons daily was maintained during November 1948 in the loadings for the Calcutta Docks for shipment. The increased movements to the Calcutta Docks saved the much longer movements by the all-rail route.

The wagon position, particularly on the East Indian Railway, improved considerably during November 1948, when a daily average of 2,091 wagons was loaded with coal. This is believed to be a record since the introduction of control over coal. This figure could not, however, be maintained in the months immediately following, when traffic in other goods increased markedly.

In February 1949, the Central Board of Transport laid down a minimum guaranteed loading figure of 2,700 wagons per day for coal in the Bengal and Bihar coalfields. The actual loadings, however, exceeded this guaranteed figure during the month of March 1949.

Generally, the movement for coal was comparatively free in most directions. In the case of traffic for stations situated between the coalfields and Moghalsarai and beyond Moghalsarai towards the west, the movement had to be regulated on account of breaches and operational set-backs from time to time. The position with regard to the coal traffic for stations on the Oudh Tirhut Railway was also affected, mainly by difficulties in the river ferry.

The several Committees set up by the Ministry of Industry and Supply, such as the Coal Transport Advisory Committee, the Coal Advisory Committee and the Coal Allocation Committee, continued to render useful service in solving day-to-day problems through discussions with the representatives of the various interests concerned.

47. Movement of certain commodities by special trains.—As stated in paragraph 48 of the last report, a system of running special trains from certain stations to selected destinations was introduced towards the close of the previous year.

These arrangements were patronized increasingly during the year. A large variety of commodities such as foodgrains, sugar, salt, fodder, cement, textiles, iron and steel, jute, manganese ore, etc., were moved by special trains.

Later, the system, instead of being kept confined to wagon loads was extended to 'smalls', and non-priority goods moved from important centres, principally the ports of Calcutta and Bombay, to important towns in the interior, such as Delhi, Kanpur, Lucknow, Allahabad, Patna, Jubbulpore, Nagpur, etc. In many cases, such trains were run on nominated days to scheduled timings assuring delivery at destination within a fixed time.

It is estimated that towards the end of the year, the wagon loads of traffic cleared by such special goods trains on the Broad Gauge system constituted about 12 per cent of the total wagon loadings excluding coal.

48. Volume of traffic handled*.—There was substantial all round improvement in the volume of traffic handled as compared with the previous year. Goods traffic expressed in net ton miles increased by 9·06 per cent to 21,372,842,000. Passenger traffic, in terms of passenger miles, also registered an increase of 8·90 per cent to 33,841,165,000. As compared with the pre-war year 1938-9, the increase in passenger miles was no less than 151·5 per cent, or to about two and a half times the pre-war figure. The improvement in net ton miles over the pre-war level amounted to 21·5 per cent. The figures of traffic, excluding traffic moved by military special trains, are shown in the table below for facility of comparison.

PASSENGER MILES AND NET TON MILES

Class I Railways, exc B. A., N. W., E. P., E. I. (N. G.), and Assam

(Figures in thousands)

Particulars	1938-9† (pre-war)	1947-8	**1948-9**	Inc. or dec. % over 1938-9	Inc. or dec. % over 1947-8
Passenger miles	13,456,294	31,075,610	**33,841,165**	+151·5	+8·90
Net ton miles‡	17,587,450	19,598,213	**21,372,842**	+21·5	+9·06

* In this and the following paragraphs, the total and comparative figures refer only to the Class I, or the Indian Government Railways excluding the two railways affected by the partition of the country. The inclusion of the North Western and Bengal Assam for the period 1 April to 14 August 1947, and the Eastern Punjab and Assam for the period 15 August 1947 to 31 March 1948 would, besides vitiating comparability of the actuals and averages, necessitate in some cases the use of provisional figures. For these reasons, the systems concerned have been excluded in the tables and statements, where this course has been considered advisable.

† For comparative purposes, Bikaner State Railway, which was not a Class I Railway during 1938-9, has been included.

‡ Excludes departmental.

49. Train miles.—The train mileage operated during the year amounted to 137,042,000, an increase of 2,272,000 or 1·69 per cent as compared with 1947-8.

TRAIN MILES RUN DURING 1948-9 COMPARED WITH 1938-9 AND 1947-8

Class I Railways, exc. B. A., N. W., E. P., E. I., (N. G.), and Assam

(Figures in thousands)

Train miles	1938-9*	1947-8	**1948-9**	Inc. or dec. % over 1938-9	Inc. or dec. % over 1947-8
Passenger (inc. proportion of mixed)†	83,910	79,291	**81,526**	—2·84	+2·82
Goods (inc. proportion of mixed)‡	53,522	55,479	**55,516**	+3·73	+0·07
TOTAL	137,432	134,770	**137,042**	—0·28	+1·69

* For comparative purposes, Bikaner State Railway, which was not a Class I Railway during 1938-9, has been included.

† Includes the mileage of trains conveying passengers and of all other traffic booked at coaching rates, and empty mileage run by passenger and other coaching stock. It also includes the mileage of electric locomotive and electric multiple trains as well as military specials, but excludes departmental trains.

‡ Includes mileage of electric locomotive trains, but excludes departmental.

Passenger train miles increased during the year by 2·82 per cent to 81,526,000 against an increase of 8·9 per cent in passenger miles. Goods train miles at 55,516,000 recorded little increase—actually, 0·07 per cent—over the previous year. With goods train mileage constant, the increase of 9·06 per cent in the net ton mileage points to an increase in train loads, which, on the broad gauge, rose from an average of 423 tons in 1947-8 to 470 in 1948-9.

The performance during the year as compared with 1938-9 indicates that railways carried 151·5 per cent more passenger traffic with 2·84 per cent less passenger train services, whilst 21·5 per cent more goods traffic was carried with an increase of only 3·73 per cent in goods train miles.

Detailed figures of train miles of Class I Railways are given in Statements Nos. 17 and 32 and those of Class II and III Railways in Statement No. 37 of Volume II of this Report.

50. Shunting miles.—' Other engine mileage ' during 1948-9 was nearly 24 per cent of the total engine mileage (including departmental), which is much the same as during the previous year.

Shunting miles, forming the greater portion of the unproductive mileage, amounted to about 16 per cent of the total engine miles. In the following table is shown the ratio per 100 train miles of the passenger and goods shunting miles of Class I Railways during 1948-9 as compared with 1947-8. It will be observed that except in the case of metre gauge goods services there has been a slight increase under all other heads.

SHUNTING MILEAGE DURING 1947-8 AND 1948-9

Class I Railways, exc. B. A., N. W., E. P. and Assam

Shunting miles per train miles 100		1947-8	1948-9	Inc. or dec. % over 1947-8
Passenger and proportion of mixed	B. G.	5·69	**5·91**	+3·87
	M. G.	5·21	**5·26**	+0·96
Goods and proportion of mixed . .	B. G.	40·8	**41·7**	+2·21
	M. G.	45·1	**44·6**	—1·11

The principal features of passenger and goods train operation on Class I Railways during the year are reviewed in the following paragraphs.

51. Passenger trains.—On the broad gauge, there was an increase of ~~9·30~~ 0·93 per cent in vehicle miles against approximately ~~the same~~ 9·3 percentage increase in passenger miles. On the metre gauge, however, the increase in vehicle miles was only 3·57 per cent as against an 8·43 per cent in passenger miles.

STATISTICS OF PASSENGER TRAFFIC

Class I Railways, exc. B. A., N. W., E. P. and Assam

(Figures in thousands)

Particulars	Broad gauge 1947-8	Broad gauge 1948-9	Broad gauge Inc. or dec. % over 1947-8	Metre gauge 1947-8	Metre gauge 1948-9	Metre gauge Inc. or dec % over 1947-8
Passenger miles	20,837,418	**22,768,790**	+9·27	9,868,112	**10,699,978**	+8·43
Coaching vehicle miles (inc. proportion of mixed)	772,220	**779,398**	~~+9·30~~ +0·93	408,367	**422,927**	+3·57
Passenger train miles* (inc. proportion of mixed)	51,401	**52,479**	+2·10	26,229	**27,243**	+3·87

* Includes the mileage of trains conveying passengers and of all other traffic booked at coaching rates, and empty mileage run by passenger and other coaching stock. It also includes mileage of electric locomotives and electric multiple unit suburban trains as well as military specials, but excludes departmental.

52. Punctuality of passenger trains.—Except in the case of suburban electric multiple unit trains on the metre gauge, there was an appreciable improvement in the punctuality of passenger trains especially over the broad gauge.

The following table shows the percentage of passenger trains not losing time to the total number of trains run on all Class I Railways, excluding Bengal Assam, North Western, Eastern Punjab and Assam during 1948-9 as compared with 1947-8.

PERCENTAGE OF PASSENGER AND MIXED TRAINS NOT LOSING TIME

Year	All trains (inc. electric multiple unit trains) %	Mail and important through trains %	Mixed trains %	Suburban trains %	Other passenger trains %
BROAD GAUGE					
1947-8	67·6	48·5	66·9	60·4 82·6*	59·5
1948-9	**73·2**	**61·0**	**69·4**	**70·9** **84·0***	**68·3**
METRE GAUGE					
1947-8	69·7	51·2	74·1	80·9 90·2†	62·8
1948-9	**68·4**	**55·2**	**76·8**	**69·4** **72·5†**	**64·3**

* Bombay, Baroda and Central India and Great Indian Peninsula Railways' electric multiple unit trains.

† South Indian Railway electric multiple unit trains.

53. Restoration of passenger train services, 1948-9.—Passenger train services were increased during the year to the extent of about 12,777 broad gauge, 2,687 metre gauge and 322 narrow gauge train miles daily. At the end of the year, the percentage of passenger train mileage to the pre-war figures on the different railways varied from 92·7 to 118·3 on the broad gauge and from 78·6 to 114·0 on the metre gauge.

54. Refugee traffic.—There was a considerable drop in the Inter-Dominion movement of refugees by rail during the year as compared with the phenomenal figure of last year. About 158,000 non-muslim refugees were moved by rail from West Pakistan to India and about 27,000 in the reverse direction. Within the Indian Dominion, there were considerable movements by rail from the refugee camps to dispersal camps and to areas where refugees were rehabilitated.

55. Goods trains.—As compared with the previous year, as against a slight decline of 0·58 per cent in the broad gauge goods train miles, more ton miles and wagon miles were moved, to the extent of 10·4 and 4·04 per cent respectively. The running of more wagons per train and with increased loads per wagon is indicated by these figures. On the metre gauge, however, the position was different, there being a slight increase of 1·68 per cent in train miles as against a small increase of 0·71 per cent in ton miles and a decrease of 2·77 per cent in wagon miles.

STATISTICS OF GOODS TRAFFIC

Class I Railways, exc. B. A., N. W., E. P. and Assam

(Figures in thousands

Goods and proportion of mixed		1938-9* (pre-war)	1947-8	**1948-9**	Inc. or dec. % over 1938-9	Inc. or dec. % over 1947-8
Ton miles† . . .	B.G.	14,989,461	16,990,439	**18,751,058**	+25·10	+10·40
	M.G.	2,534,065	2,530,464	**2,548,354**	+0·56	+0·71
Wagon miles . . .	B.G.	1,659,292	1,679,077	**1,746,869**	+5·28	+4·04
	M.G.	531,715	454,533	**441,937**	−16·90	−2·77
Train miles . . .	B.G.	37,060	40,014	**39,781**	+7·34	−0·58
	M.G.	15,297	14,326	**14,566**	−4·78	+1·68

* For comparative purposes, Bikaner State Railway which was not a Class I Railway at that time, has been included.

† Excludes departmental.

56. Goods train speeds.—The average speed of goods trains was slightly lower on both the broad and metre gauges during 1948-9 as compared with 1947-8 from 10·5 to 10·3 on the broad gauge, and from 9·35 to 9·28 on the metre gauge.

57. Goods train loads.—The average net or freight load per goods train (steam) on the broad gauge increased by 47 tons from 423 tons in 1947-8 to 470 tons in 1948-9. On the metre gauge there was a very slight drop from 176 tons in 1947-8 to 175 tons in 1948-9. The East Indian Railway alone accounted for an increase of nearly 101 tons per goods train, *viz.*, from 472 tons in 1947-8 to 573 tons in 1948-9.

58. Stock usage.—The average number of engines in use daily on different services on the broad gauge increased by 4 per cent from 3,100 in 1947-8 to 3,209 in 1948-9, but the total engine miles increased only by 2 per cent from 118,902,000 to 120,682,000. This disparity accounts for the drop in the engine user which dropped by 2 per cent from 105 to 103.

A similar comment may be made as regards the stock usage on the metre gauge. The number of engines in use daily on different services increased by 5 per cent from 1,334 in 1947-8 to 1,401 in 1948-9, whereas the total engine miles increased only by 3 per cent, from 51,178,000 to 52,806,000. This disparity was reflected in a decrease in the engine user which dropped from 108 to 105.

STOCK USAGE ON CLASS I RAILWAYS

Exc. the B. A., N. W., E. P. and Assam

Particulars	Broad			Metre		
	1947-8	**1948-9**	Inc. or dec. % over 1947-8	1947-8	**1948-9**	Inc. or dec. % over 1947-8
Average no. of engines available for use	3,634	**3,652**	+0·50	1,608	**1,661**	+3·30
Total engine miles (in thousands)	118,902	**120,682**	+1·50	51,178	**52,806**	+3·18
Engine miles per day per engine in use	105	**103**	—1·90	108	**105**	—2·78

59. Engine usage.—Measured in terms of engine miles per day per engine on line (*i.e.*, inclusive of time occupied under repairs, etc.), the daily mileage on the broad gauge remained at the same level as in 1947-8, *viz.*, 72, but on the metre gauge, it increased from 71 to 73. The percentage of engines under or awaiting repairs in Mechanical and Transportation Workshops advanced slightly from 20·2 per cent to 20·8 per cent on the broad gauge, but on the metre gauge it dropped from 19·9 per cent to 17·9 per cent.

The downward trend of ton miles per locomotive day both for the locomotives on line and for the locomotives in effective use, noticeable in previous years, was checked during the year on both gauges, except for a further decrease in net ton miles per locomotive day in use on the metre gauge.

STATISTICS OF LOCOMOTIVE USAGE

Class I Railways, exc. B. A., N. W., E. P. and Assam

Year	Net ton miles			
	Broad		Metre	
	Per goods locomotive day on line	Per goods locomotive day in use	Per goods locomotive day on line	Per goods locomotive day in use
1947-8	14,389	23,044	6,303	10,840
1948-9	**15,829**	**25,053**	**6,359**	**10,350**

Details of engine usage are given in Statement No. 22 of Volume II of this Report.

60. Wagon usage.—During the year, the wagon user indicated a slight improvement on both gauges as compared with the previous year. This statistical average denotes the average number of miles run per wagon daily, inclusive of loaded and empty journeys. On the broad gauge, the wagon mileage per wagon day was 34·5 in 1948-9 as against 34·3 in 1947-8, and on the metre gauge it was 30·2 as against 28·5 in 1947-8.

The percentage of wagons under or awaiting repairs in mechanical and transportation workshops and sick lines to the total goods stock on line increased from 7·50 in 1947-8 to 8·10 in 1948-9 for broad gauge wagons and from 5·87 in 1947-8 to 6·05 in 1948-9 for metre gauge wagons.

Net ton mileage per wagon day, which indicates the volume of useful work done per day of wagons being on line, improved during the year as compared with 1947-8 from 351 to 373 on the broad gauge and from 162 to 179 on the metre gauge.

61. Wagons loaded with ' Smalls '.—The percentage of ' smalls ' to total traffic during 1948-9 as compared with 1947-8 increased slightly from 9·16 to 9·46 on the broad gauge and decreased somewhat from 14·5 to 13·9 on the metre gauge.

NUMBER OF WAGONS LOADED WITH ' SMALLS '

Class I Railways, exc. B. A., N. W., E. P. and Assam

Railways	Number		Inc. or dec. % over 1947-8	Percentage of the total number of wagons loaded	
	1947-8	**1948-9**		1947-8	**1948-9**
Broad gauge	296,201	**321,399**	+8·51	9·16	**9·46**
Metre gauge	238,381	**243,406**	+2·11	14·52	**13·94**

62. Improvement in marshalling and other yards and their working. The prinicpal items of improvements carried out during the year are referred to in paragraph 37 on Engineering Works.

In December 1948, two officers—one belonging to Power and the other to the Transportation Department—were placed on special duty for a few months to advise, in the light of their studies abroad, on the ways and means of improving certain aspects of railway operation. The Transportation Officer indicated the directions in which the loading of wagons could be further regulated in a predetermined marshal order in order to minimize the number of shunts for facility of formation of trains and any adjustments in their loads *en route*. Some progress was made in this respect in the case of trains originating from the Bombay area. Further, marshalling of trains from the Great Indian Peninsula and Bombay, Baroda and Central India Railways was also considerably improved by means of a rationalized system of labelling of loaded wagons, introduced at the suggestion of the Transportation Officer.

63. Wagon position, Broad Gauge Wagon Pool.—The number of public service wagons (in terms of 4-wheelers) in use on the broad gauge railways in the wagon pool, including Pakistan Railways, was at the end of 1948-9, 182,185, or 526 less than that at the end of the previous year. Of these, the total number of public service wagons owned by the Indian Dominion Railways was 155,205.

The total number of wagons loaded on all the Indian Dominion Railways during the year ending 31 March 1949, was 3,635,809. A proper comparison with the previous year is, however, not possible on account of the division of the Bengal Assam and North Western Railways during that year. There was generally an increase in the loadings as compared with the previous year and a progressive reduction in the arrears in loading. The number of wagons temporarily out of service on the broad gauge railways in the Indian Dominion varied between 10,050 and 13.669.

64. Wagon position, Metre Gauge Wagon Pool.—The number of public service wagons (in terms of 4-wheelers) in use on the metre gauge railways in the Northern Metre Gauge Wagon Pool, including Pakistan Railways, at the end of the year was 61,987, *i.e.*, 117 less than that at the end of the previous year. The figure includes also the War Department stock. The total number of public traffic wagons owned by the Indian Dominion Railways in the Northern Metre Gauge Wagon Pool was approximately 36,126, excluding War Department stock, which has not been divided between India and Pakistan.

The total number of wagons loaded on the Indian Dominion Railways in the Northern Metre Gauge Wagon Pool during the year ending 31 March 1949, was 1,371,641. A proper comparison with the previous year is not possible owing to the partition of the Bengal Assam and Jodhpur Railways. There was an increase in the loadings as compared with the last year. The wagon position, however, continued to be difficult, particularly because out of about 16,000 War Department wagons on line a large percentage is unfit for service.

The number of wagons temporarily out of service on the Indian Dominion Railways in the Northern Metre Gauge Wagon Pool varied between 4,475 and 5,797. The marked increase in the number of wagons temporarily out of service has also contributed to the generally tight position of wagon availability.

65. Neutral examination of interchange stock.—The staff working under the Director of Wagon Interchange continued to examine wagons interchanged between Railways at the following junctions:—

Broad gauge.	*Metre gauge (Northern Pool).*
Ajni (Nagpur).	Badarpur.
Chheoki.	Lalmanirhat.
Ghaziabad.	
Khanalampura.	
New Delhi.	
East Dock Junction.	
Waltair.*	
Bongaon.	
Lahore.	
Macleodganj Road.	
Ranaghat.**	

Certain staff under the Director of Wagon Interchange were also posted at Moghalpura, Lillooah and Jhansi Workshops and they continued to examine wagons turned out of the workshops.

66. Coal supply and coal stock position.—At the beginning of 1948-9, the stocks of steam coal on Class I Railways were equivalent to 17·7 days' consumption. By 31 May 1948, stocks had increased so as to represent 19·9 days' average consumption, and thereafter declined until on 10 July 1948, stocks had been reduced to 18·6 days' requirements. The reason for the decline was chiefly due to operating difficulties on the East Indian Railway as a result of sickness amongst train crews. After 10 July, the position again improved, stocks rising steadily until on 30 November 1948 they were at a level of 22·6 days' requirements—the highest level attained during the previous four years.

* Neutral control reintroduced from 1 January 1949.

** Neutral control transferred from Naihati to Ranaghat from 1 March 1949.

Unfortunately, this improvement could not be maintained owing to the following special factors :—

(*a*) operational difficulties and consequent imposition of traffic restrictions on account of several accidents on the East Indian and Bengal Nagpur Railways during the last week of November and first week of December 1948, which seriously retarded the flow of empties into the coalfields;

(*b*) very large sugarcane traffic and heavy movement of grains from the docks, which affected the availability of wagons for coal loadings;

(*c*) reduction in the coal loading target on the Bengal Nagpur Railway on account of power troubles, and operational difficulties owing to the Damodar Bridge between Adra and Asansol being under repairs; and

(*d*) rise in consumption, which exceeded anticipations, owing to increased traffic during the months December 1948 to March 1949, the usual peak traffic period of the year.

Accordingly, there was a rapid falling off in the stock position and the stocks dropped at the end of the year to 16·8 days' level, or a decrease of 0·9 day's requirements as compared with the position on 1 April 1948.

There were fewer complaints of inferior coal supplies during the year under review than in the previous year. On the recommendations of the Standing Committee of the Central Board of Transport, supplies of Grades III-A and III-B coals, which were unsuitable for railway purposes, were discontinued.

67. Fuel economy measures.—This subject has been dealt with under the activities of the Central Standards Office for Railways in paragraph 109 of Chapter VI.

68. Reclassification of passenger accommodation from 1 January 1949 and effect on passenger traffic and earnings.—In response to a long standing public demand, a reduction was made in the number of classes of passenger accommodation on 1 January 1949. The upper, inter and lower classes replaced the former First, Second, Inter and Third classes. For purposes of simplification, it was decided to mark the new classes in a manner somewhat similar to the former First, Second and Third, the distinguishing symbols adopted being I, II and III, and to refer to these as Class I, Class II, and Class III.

The fares fixed for the new classes were :

Class I	24 pies per mile
Class II	9 pies per mile (mail)
	7½ pies per mile (ordinary)
Class III	5 pies per mile (mail)
	4 pies per mile (ordinary)

Reduction in fare for the Upper class as compared with the fare for the former First Class was made because the intention was to provide sleeping accommodation in this class only. It was hoped that if the fare was not pitched above 24 pies, approximately half of the former Second class passengers could be expected to travel by the Upper class.

It soon became apparent that the middle class public accustomed to the comforts of the old Second class were not generally able to afford even the reduced Class I fare, and, in response to an insistent demand, sleeping accommodation had to be improvized to a limited extent in Class II compartments. This inevitably affected the estimates of revenue from the new classes and, although a surcharge was imposed for Class II sleeping accommodation, this was insufficient to bridge the gap between the estimated and actual receipts from Upper class passengers.

Although it was not possible to draw firm conclusions from the statistics covering the relatively short period from 1 January 1949 to 31 March 1949, the preliminary reports from Administrations indicated in no uncertain manner that the changeover, apart from reducing railway earnings, had not been well received by the public.

During 1949-50, it has been decided to introduce on important trains, as an interim measure until the new designs of rolling-stock are brought into service, a class of sleeping accommodation between Class II and Class I. This class which is designated " Class II Special " conforms very closely to the former Second class. The fare, however, is 14 pies per mile instead of 16 pies, which was the basis of the former Second class fare.

B. COMMERCIAL.

69. Alteration in rates and fares.

(A) Goods traffic.—The revision of the rates structure having been finalized, the main changes were brought into effect from October 1948. The principal features of the changes are summarized below.

(*a*) Replacement of the flat class rates 1, 2, 2A, 2B, 2C, 3 and Special Class C by telescopic rates.

(*b*) Withdrawal of six standardized schedules, *viz.*, C/A, C/O, C/M, C/L, C/H and C/N and the introduction of 13 Standard Telescopic Wagon Load Scales on continuous mileage.

(*c*) Withdrawal of the exceptional class and schedule rates and indefinite station-to-station rates.

(*d*) Standardization of short distance, terminal and transhipment charges.

(*e*) Absorption of the 12½ per cent increase charge in the basic rates.

(*f*) Renumbering of the classes.

(*g*) Replacement of the schedule rates applicable to grain and pulses and oilseeds N. O. C. in wagon loads by two telescopic scale of rates, applying on Railways grouped into two—one on continuous mileage within each group of Railways and the other on discontinuous mileage for traffic exchanged between the two groups.

(*h*) Withdrawal of the owner's risk classification for commodities for which the risk of carriage is negligible and bringing of the margin of difference between the O. R. and R. R. rates within reasonable limits.

(*i*) Enhancement of the station-to-station rates which were below the Railways' rate reducing powers, with a view to bringing them within these limits.

(*j*) Prescribing a minimum charge of Rs. 1-12-0 per ton or part of a ton, on the carrying capacity of the wagon used.

(*k*) Revision of the rates for livestock.

(*l*) Rationalization of the rates for coal, coke and patent fuel in full wagon loads at owner's risk, by the introduction with effect from 1 September 1948 of the following scale of rates in replacement of the Bengal Coal Scale, the C. P. Coal Scale, and the local scales applicable over the Madras and Southern Mahratta, Assam and South Indian Railways :

	Per maund per mile
1— 200 miles	0·25 pie
plus 201— 400 miles	0·07 pie
plus 401—1000 miles	0·06 pie
plus for distances beyond	0·05 pie

plus standard terminal charge of 8 annas per ton at each end and standard transhipment charge of 5 annas per ton at each break of gauge junction.

The above scale of rates is subject to a minimum charge of Rs. 1-12-0 per ton, inclusive of terminal and all other charges, and a maximum charge of Rs. 17-12-0 per ton, exclusive of terminal and all other charges.

(*m*) Withdrawal of the increase in charge of 30 per cent levied on freight rates for coal, coke and patent fuel.

(*n*) Withdrawal of the blanket rates (equal rates for unequal distances) for coal.

(*o*) Reintroduction of the rebate allowed on coal traffic booked through the port of Calcutta to other coastal ports in the Indian Union and to Marmugao Harbour, but limited to 15 per cent of the freight rate exclusive of terminal.

Some of the important changes effected on individual Railways are summarized below:

(*a*) With a view to avoiding weighment of wagons, rates for charcoal and firewood on floor area basis were introduced over the Great Indian Peninsula Railway in local booking.

(*b*) Concessional rates for fodder or forage were introduced from certain stations on the Great Indian Peninsula Railway to famine-stricken area stations in Ajmer-Merwara, Ahmedabad, Broach and Mehsana districts.

(*c*) Rebate in freight charges formerly allowed on certain items of traffic booked from and to Iran, Afghanistan and Russia was withdrawn.

(B) Passenger and coaching traffic—Passenger traffic.—With the reclassification of passenger accommodation with effect from 1 January 1949 the bases of passenger fares were altered, as referred to in paragraph 68.

Although it was not originally intended, in response to an insistent public demand, Class II sleeping accommodation was introduced on certain trains. For this a surcharge was levied.

With effect from 1 January 1949, Suburban Season Ticket fares for new Class I were standardized in Bombay, Calcutta and Madras.

Coaching traffic—(1) Luggage and Parcels.—With effect from 1 October 1948, the scale of charges for parcels and luggage, other than small parcels not exceeding 1 cubic foot by measurement or 2½ seers in weight, to which the former scales of charges continued to apply, were revised as follows:—

(a) *Basis of full parcels and luggage rates.*

4 pies per maund per mile for the first 100 miles
plus 3 pies per maund per mile for the next 100 miles
plus 2 pies per maund per mile for the next 500 miles
plus 1½ pies per maund per mile for distances beyond.

NOTE.—The half and quarter parcels rates are respectively half and quarter the charge leviable under the above scale rounded off to the next higher anna.

(b) *Basis of rates for betel or pan leaves, butter, cream, etc.*

3 pies per maund per mile for the first 100 miles
plus 2 pies per maund per mile for the next 100 miles
plus 1½ pies per maund per mile for the next 600 miles
plus 1 pie per maund per mile for distances beyond.

(2) *Scales of charges for other descriptions of coaching traffic.*—With effect from 1 October 1948, the scale of charges for other forms of coaching traffic, the principal items of which are shown below, were also enhanced :

(*a*) Tourist cars and saloons.

(*b*) Special trains for the public.

(*c*) Special trains for High Officials.

(*d*) Dogs, elephants, camels, ponies, calves, sheep and goats.

(*e*) Palanquins.

(*f*) Motor cars, motor boats and aeroplanes.

(3) *Other important modifications made from 1 October 1948:*

(*a*) " Increased charge " on luggage and parcels and " Increased charge " and " Surcharge " on passenger traffic were withdrawn.

(*b*) Standard terminal charge was levied on luggage and parcels traffic and also on traffic in motor cars, carriages, etc., and live-stock.

(*c*) Supplementary charge leviable for travelling in air-conditioned coaches was enhanced.

70. Effect of the changes in rates and fares introduced at the beginning of 1948 and 1949.

Goods traffic.—Three important factors affecting goods traffic contributed to the increase in freight earnings during the year. The first was the partial revision of the rates structure on 1 January 1948, and the second the introduction of a rationalized coal scale with effect from 1 September 1948. The last was the practically complete revision of the goods rates incorporated in the rates structure brought into effect on 1 October 1948.

On the Bengal Nagpur Railway, substantial increases occurred in earnings from coal, manganese ore, iron ore, limestone and general merchandise, the drop in the volume of traffic being due not to the effects of the rate changes but mainly to shortage of wagons.

On the East Indian Railway, during the period from April to August 1948, there was a drop of 16·95 per cent in the net ton miles of coal, but here again this was not the outcome of the new rates for coal but of other factors. Earnings from coal recorded a slight increase of 0·81 per cent. That the new scale has not retarded coal movements is clear from the fact that during the period September 1948 to March 1949, the tonnage carried and ton mileage of coal were substantially higher than the figures of the corresponding period of the previous year. Earnings on this traffic increased by Rs. 318·42 lakhs or 89·47 per cent. The details may be seen from the following table.

COAL TRAFFIC AND EARNINGS ON THE E. I. RAILWAY DURING 1947-8 AND 1948-9

Particulars	1948	1947	Difference over 1947: Increase (+) Decrease (—)	Difference over 1947: Per cent Increase (+) Decrease (—)
		April to August 1948.		
Earnings (in thousands)	Rs. 2,86,18	Rs. 2,83,89	Rs. +2,29	+0·81
Tons carried (in thousands)	4,717	5,842	—1,125	—19·26
Net ton miles (in thousands)	1,609,816	1,938,343	—328,527	—16·95
		September 1948 to March 1949.		
Earnings (in thousands)	**Rs. 6,74,32**	**Rs. 3,55,90**	**Rs.+3,18,42**	**+89·47**
Tons carried (in thousands)	**10,203**	**7,100**	**+3,103**	**+43·70**
Net ton miles (in thousands)	**3,104,542**	**2,076,608**	**+1,027,934**	**+49·50**

In the case of general merchandise, the tonnage carried recorded an increase of 12·37 per cent during April to August 1948, and of 53·69 per cent during September 1948 to March 1949 as compared with the corresponding periods of the previous year. This affords a definite indication that the rate enhancements necessitated by rising operating costs did not adversely affect the movement of traffic.

A comparative analysis of the volume of traffic and earnings for 1947-8 and 1948-9 for certain Indian Government and Indian State Railways is given below :—

NET TON MILEAGE AND EARNINGS FROM GOODS TRAFFIC ON CERTAIN INDIAN GOVERNMENT AND STATE RAILWAYS

Railway	Net ton miles (in thousands)				Earnings (in thousands)			
	1948-9	1947-8	Difference over 1947-8		1948-9	1947-8	Difference over 1947	
			Increase(+) Decrease(—)	Per cent Increase(+) Decrease(—)			Increase(+) Decrease(—)	Per cent Increase(+) Decrease(—)
East Indian	7,534,084	5,906,737	+1,627,347	+27·76	29,69,55	19,42,39	+10,27,16	+52·88
Bengal-Nagpur	3,695,300	3,841,800	—146,500	—3·81	15,89,00	12,81,00	+3,08,00	+24·04
South Indian	900,880	840,987	+59,893	+7·05	6,37,17	5,73,35*	+63,82	+10·02
Mysore State	106,775	97,107	+9,668	+9·96	93,25	70,03	+23,22	+33·00
Bikaner State	70,328	57,221	+13,107	+22·91	53,82	37,64	+16,18	+42·99
Jodhpur	107,719	124,145	—16,426	—13·23	73,44†	78,89†	—5,45†	—6·92†

* These are approximate figures.

† These figures are provisional. The fall in earnings is due to partition having led to suspension of through traffic with the N. W. (Pakistan) Railway.

Passenger traffic.—The alterations in the bases of fares brought into effect from 1 January 1948 contributed to an all-round increase in passenger earnings during the year. The increase would have been greater but for the diversion of passengers to lower classes in consequence of the change made in the classification of passenger accommodation with effect from 1 January 1949.

On the Bengal Nagpur Railway, a number of factors contributed to the increase in both the number of passengers in, and earnings from, Class III, such as the additional train facilities, the drive against ticketless travel and the almost cent per cent diversion from the former Inter class withdrawn from suburban services as from 1 January 1949.

On the East Indian Railway, there was an overall increase of 10·96 per cent in the number of passengers carried and 45·38 per cent in earnings, during April to December 1948. Part of the increase in the number of passengers, however, is the result of the inclusion of the Sealdah Division for the whole of the period under review in 1948 as against the period from 15 August 1947 in the previous year. The increase in earnings not directly attributable to the larger number of passengers is to be attributed to the enhancement in the bases of fares with effect from 1 January 1948. An appreciable decrease in the number of First class passengers was not due to the higher fares so much as to increasing competition from air services. There was diversion to Second class on account of increase in fares.

Statistics of the number of passengers carried and the earnings therefrom on certain Indian Government and State Railways during 1948-9 are compared with those for 1947-8 in the statement below.

NUMBER OF PASSENGERS AND EARNINGS ON SELECT RAILWAYS

Particulars	1947—8	1948—9	Increase or decrease over 1948
(a) B. N. Railway			
No. of passengers	46,100,000	52,400,000	+6,300,000
Earnings	Rs. 4,27,00,000	Rs. 5,92,00,000	Rs. +1,65,00,000
(b) Bk. S. Railway			
No. of passenegrs	5,869,000	7,384,000	+1,515,000
Earnings	Rs. 70,29,000	Rs. 88,48,000	Rs. +18,19,000
(c) E. I. Railway			
No. of passengers	178,453,000	188,282,000	+9,829,000
Earnings	Rs. 15,37,08,000	Rs. 19,87,16,000	Rs. +4,50,08,000
(d) G. I. P. Railway			
No. of passengers	160,474,300	189,865,200	+29,390,900
Earnings	Rs. 15,53,92,172	Rs. 19,12,33,135	Rs. +3,58,40,963
(e) Jodhpur Railway			
No. of passengers	5,726,090	6,275,423	+549,333
Earnings	Rs. 1,03,80,085	Rs. 82,27,122	Rs. —21,52,963*
(f) Mysore State Railway			
No. ef passengers	18,027,406	19,918,500	+1,891,094
Earnings	Rs. 84,22,000	Rs. 1,19,82,000	Rs. +35,60,000
(g) O. T. Railway			
No. of passengers	81,380,200	97,160,000	+15,779,800
Earnings	Rs. 5,15,11,000	Rs. 7,00,84,000	Rs. +1,85,73,000
(h) S. I. Railway			
No. of passengers	157,559,300	147,193,000	—10,365,700
Earnings	Rs. 8,06,94,000	Rs. 7,86,69,000	Rs. —20,25,000

* The decrease is due to adjustments in accounts.

71. Efforts to secure better wagon usage and wagon loads.—The measures adopted by Railways during previous years in order to secure better usage of wagons and improved wagon loads were continued. With effect from 1 October 1948, standard minima weight conditions were prescribed for several commodities carried in wagon loads. Nominated loading was introduced for special commodities in full train loads between important centres. Reference to certain other steps taken during the year are summarized in the following paragraphs.

On the Bengal Nagpur and Great Indian Peninsula Railways, the minimum load for the *Through Road Van* was raised to 250 maunds.

In order to avoid weighment of wagons and to eliminate the demand for larger types of wagons, lump sum rates on the floor area basis were introduced for bamboos, splints and chips for paper making when booked from Bengal Nagpur Railway stations to Titaghur, Naihati and Kankinara Paper Mills. Similar rates for charcoal and firewood were introduced in local booking over the Great Indian Peninsula Railway. Fixed weights for charge according to the floor area of the wagons used were introduced over the Bengal Nagpur Railway for bamboos for paper mills, charcoal and firewood, in order to avoid weighments with a view to securing better turn-round of wagons.

The free time for loading and unloading of wagons at certain sidings over the East Indian Railway was reduced to six hours. The free time for the removal of consignments from the goods sheds at certain stations was reduced and enhanced wharfage rates on sliding scales introduced at Howrah, Ramkistopore, Salkea, Monghyr, Bhagalpur, Sakrigali Ghat, Serampore, Sheoraphuli and Bally.

In order to discourage bogus registration of wagons, instructions were issued to Railways to levy a wagon registration fee of Rs. 35 per broad gauge wagon, Rs. 25 per metre gauge wagon and Rs. 15 per narrow gauge wagon, at the time of registration of goods. This registration fee is adjusted in the freight charges when the consignment is booked, but is liable to forfeiture if the goods are not ready for despatch, or if the allotment is otherwise rejected. The fee is refunded if the registration is cancelled before it comes to the notice of railway officials that goods are not ready for despatch or before allotment of wagons, whichever is earlier.

The following categories of traffic are, however, exempted from the scope of the levy of the wagon registration fee :—

(*a*) military traffic;

(*b*) indents by railway officials in their official capacity; and

(*c*) traffic brought on to railway premises and thereafter tendered and registered for despatch to particular stations.

There is evidence that the introduction of this registration fee has been beneficial in preventing wastage of wagons and careless indents.

72. Coordination of rail, road and water transport.—During the year the Railways serving the Bombay Presidency invested a sum of Rs. 66·7 lakhs, representing 25 per cent of the initial capital, in the Bombay Government's nationalization scheme. In the Central Provinces and Berar, consequent on the withdrawal of the Managing Agents of the Central Provinces Transport Services Limited, a rail-associated company, the Railways purchased 50 per cent of the surplus share, the total investment being Rs. 3·92 lakhs. Other Provinces have no developments to report.

As regards coordination with inland water transport during the year, there was no important development to be reported.

73. Closer contacts with business interests.—Railways continued to maintain close contacts with business interests through informal meetings with Chambers of Commerce, trade associations and merchants at important centres. The subjects discussed at these meetings related to such matters of current interest to the business community as wagon supply, booking restrictions, delays to goods in transit, better transport facilities, the settlement of claims, freight charges, etc. Railway representatives in their capacity as members thereof maintained close liaison with Chambers of Commerce and participated in the deliberations of Transport Sub-Committees of these bodies. Such contacts proved of value in fostering good relations and understanding between the railways and commercial interests.

74. Claims for compensation and refunds.—Despite various measures adopted by the Railways to expedite the disposal of claims, the number of claims remaining unsettled at the end of the year was higher than that of the previous year. The main reasons for this were :—

(*a*) the unprecedented increase in the number of claims received during the year;

(*b*) the change in the procedure under which enquiries regarding non-receipt of packages or consignments which were previously treated as 'No claims' cases, are now treated as 'Claims' cases immediately on receipt of intimation from the public;

(*c*) difficulty experienced in obtaining the necessary information or files from the Pakistan Railways in connection with pre-partition claims, which are required to be settled by the Indian Railways.

The following statements for Class I Railways show for **1948-9** :—

(A) the number of claims received in respect of goods or parcels damaged or lost, and of goods and parcels overcharged, and the average time taken in their settlement;

(B) the number and value of claims in respect of goods or parcels lost or damaged under main causes;

(C) the number of court cases in respect of goods or parcels lost, damaged or delayed and their disposal.

STATEMENT A

Claims received for Goods or Parcels damaged, lost or overcharged, and the average time for settlement

Item No.	Particulars	Assam	B. N.	Bikaner State	B., B. & C. I.	E. I.	E. P.	G. I. P.	Jodhpur	M. & S. M.	Mysore State	N. S.	O. T.	S. I
1	Number of claims involving compensation for goods or parcels lost, damaged, or delayed carried over as unsettled at the close of the preceding year	1,939	19,434	7,786	20,125	22,363	21,989	46,845	5,945	7,721	3,717	5,994	20,539	2,529
2	Number of claims received (and re-opened) for compensation on account of goods or parcels lost, damaged, or delayed during the current year	12,928	50,687	6,024	51,549	127,135	31,184	68,944	6,685	24,062	6,218	6,722	45,910	9,441
3	Number of claims referred to against items 1 and 2 settled during the year	11,023	41,597	6,223	59,946	118,597	45,151	88,777	5,932	26,371	7,107	6,697	51,248	10,408
4	Balance outstanding as unsettled at the close of the year	3,844	28,524	7,587	11,728	30,901	8,022	27,012	6,698	5,412	2,828	6,019	15,201	1,562
5	Net amount paid in compensation Rs.	7,21,839	23,30,051	85,113	6,29,842	29,24,812	4,91,878	10,81,783	23,335	9,34,610	—19,983	1,10,495	—76,551	1,00,068
6	Percentage of sum paid in compensation (item 5) to gross earnings	3·78	1·30	5·26	0·22	0·89	0·40	0·42	0·23	0·46	—0·18	0·20	—0·14	0·13
7	Average time taken in settlement of claims shown against items 1 & 2 (Days.)	49	117	95	118	68	79	132	99	117	104	277	70	57
8	Number of applications received for refunds on goods and parcels overcharged	7,661	6,335	1,217	11,294	34,925	10,185	14,158	3,754	19,494	2,223	2,389	4,889	27,752
9	Average time taken in settlement of claims shown against item 8 (Days.)	72	168	60	97	87	38	56	117	48	94	235	90	52

STATEMENT B

Number and value of claims paid

Item No.	Particulars		Assam	B. N.	Bikaner State	B., B. & C. I.	E. I.	E. P.‡	G. I. P.	Jodhpur	M. & S. M.	Mysore State	N. S.	O. T.	S. I.
1	Claims paid on account of goods lost	No. .	712	12,521	554	3,881	24,868	..	22,036	742	2,509	*Nil*	1,080	5,076	1,515
		Value Rs. .	2,00,847	19,24,950	40,552	3,99,506	66,84,566	..	21,04,434	66,275	5,30,293	*Nil*	96,460	5,97,250	1,04,766
2	Claims paid on account of goods stolen	No. .	203	3,725	3	26	3,073	..	†	138	53	*Nil*	57	3,542	37
		Value Rs. .	57,385	7,41,073	65	11,722	3,04,380	..	†	9,636	35,637	*Nil*	11,575	11,70,512	9,061
3	Claims paid on account of goods damaged by wet	No. .	51	90	11	370	458	..	2,872	3	101	*Nil*	7	135	71
		Value Rs. .	14,346	36,716	729	36,773	50,515	..	2,25,570	363	23,336	*Nil*	2,778	16,401	11,467
4	Claims paid on account of goods damaged by fire	No. .	*Nil*	3	*Nil*	8	1	..	*Nil*	*Nil*	11	*Nil*	6	5	1
		Value Rs. .	*Nil*	4,614	*Nil*	3,448	62	..	*Nil*	*Nil*	43,792	*Nil*	1,088	1,650	52
5	Claims paid on account of goods damaged by breakage	No. .	10	20	1,632	20	99	..	878	1	72	*Nil*	23	159	61
		Value Rs. .	565	2,184	50,898	2,651	6,679	..	69,817	5	11,384	*Nil*	2,832	18,716	4,762
6	Claims paid on account of parcels and luggage lost and stolen	No. .	302	7,188	265	3,227	10,037	..	2,421	399	2,580	*Nil*	439	4,010	994
		Value Rs. .	71,534	9,94,403	12,633	2,61,054	10,37,257	..	1,14,095	23,123	4,39,986	*Nil*	1,52,588	3,90,706	53,988
7	Claims paid on account of other causes	No. .	1,335	293	31	8,522	1,024	..	9,070	23	6,860	1,893	735	1,649	1,897
		Value Rs. .	3,77,162	2,45,492	630	15,59,035	75,453	..	8,21,122	12,538	5,48,385	19,983	1,07,907	3,87,473	*2,15,151

* Provisional.

† Included under item 1.

‡ Localization of losses was not possible during the year and hence claims paid have not been completely allocated to the various causes.

STATEMENT C

Number of court cases in respect of claims and their disposal

Item No.	Particulars	Assam	B. N.	Bikaner State	B., B. & C. I.	E. I.	E. P.	G. I. P.	Jodhpur	M. & S. M.	Mysore State	N. S.	O. T.	S. I.
1	Number of suits filed in court (or pending from the previous year) for the recovery of compensation in respect of goods or parcels lost, damaged or delayed	2,018	5,845	136	5,835	14,965	2,111	15,861	245	2,113	405	127	12,331	266
2	Number of such suits settled out of court	774	782	2	1,485	1,063	102	3,697	6	519	85	46	2,858	116
3	Number of suits dismissed	63	139	*Nil*	80	1,145	508	2,133	1	221	159	6	305	46
4	Number of suits decreed	55	69	11	34	1,622	230	4,032	*Nil*	143	62	9	1,362	11
5	Number of suits pending	1,126	4,855	123	4,236	11,135	1,271	5,999	238	1,230	483	66	7,806	93

75. Special drive for disposal of arrears compensation claims, for prevention of claims and problems created by partition.—A summary procedure for the disposal of arrear claims was brought into force on 1 January 1949. All claims for non-delivery of one or more packages within a year from the date of booking are paid immediately without further enquiries, unless they can be repudiated from the evidence already on record. The same procedure also applies to non-delivery of one or more packages for six months from the date of booking, but claimants are asked to agree to accept their consignments on reasonable valuation if subsequently traced. Claims for partial shortages from one or more packages, of over six months are also paid immediately if they cannot be repudiated on the strength of the information already on record.

In order to ensure speedy disposal of petty claims, station masters of important stations and Claims Inspectors have been empowered to settle claims up to Rs. 50 in certain specified circumstances within a week from the date of delivery of the consignment.

The inter-railway claims convention, devised in order to reduce correspondence, involved in fixation of inter-railway liability, and thereby secure expeditious disposal of claims, continued during the year.

The Claims Prevention Drive was further intensified in every direction, particular attention being directed towards stamping out irregularities in working which were responsible for the bulk of the claims received. A carefully planned publicity campaign known as the "P. L. M." (Pack-Label and Mark) Campaign, comprising press advertisements, posters, cinema slides, blotter *cum* almanacs, stickers and illustrated literature, was launched to secure maximum public cooperation.

Under an agreed directive issued prior to partition, all claims were to be settled by the Railway on which the destination station was situated. For certain reasons, the Pakistan Railways resiled from this agreement except in respect of claims relating to traffic carried exclusively on what is now a Pakistan Railway. The decision was, therefore, taken that the despatching or the receiving Indian Railway, as the case might be, would deal with these claims. The Pakistan Railways were requested to make the relevant records available, or to furnish the information required for the disposal of such claims. Much delay has, however, occurred in the release of records, and information has been extremely difficult to obtain. In consequence progress in the disposal of pre-partition claims has not been all that could be desired.

76. Prevention of ticketless travel.—The measures for the prevention of ticketless travel outlined in the Report for 1947-8 were continued during the year. Reference was made last year to the arrangement by which the Government of the United Provinces provided special police and magistrates, the railways defraying the cost. Arrangements were concluded with the Government of Bombay during 1948-9, for the provision of additional police in furtherance of the special measures adopted by the Great Indian Peninsula Railway for prevention of ticketless travel in the Bombay Province. The railway undertook to defray the cost of the additional police, but the cost of additional magistrates were borne by the Government of Bombay.

77. *Mela* traffic.—As the movement of pilgrims to various centres where *melas* and fairs were held was no longer restricted, traffic demands on these occasions were met by the adoption of such operational arrangements as were practicable within the limits of the rolling-stock available.

78. Measures to ensure civility and assistance on the part of railway staff in their dealings with the public.—Strenuous efforts continued to be made to promote a spirit of courtesy and helpfulness on the part of the staff towards passengers and other members of the public. Serious and prompt notice was taken of all complaints received from the travelling public in this connection, and instances of exceptional services or assistance were rewarded.

79. Measures taken to prevent black-marketing of tickets.—With the increased supply of tickets and punctual opening of booking windows, little difficulty has now been experienced by the public in obtaining tickets at stations.

CHAPTER V

RAILWAY COLLIERIES

80. Output from principal railway collieries.—The total output from the principal railway collieries during the year 1948-9 as compared with that during the previous year is shown in the accompanying table. There has been a decrease of 386,524 tons or 11·52 per cent as compared with the previous year.

OUTPUT OF COAL FROM RAILWAY COLLIERIES DURING 1948-9

Figures in tons

Colliery	Railway	1947-8	1948-9					
			Total	Selected		Grade		
				A	B	I	II	
1. Bhurkunda	E. I.	158,347	115,141	..	..	115,141	..	
2. Kargali	G. I. P.	693,521	606,518	..	..	606,495	23	
3. Kurharbaree and Serampore.	E. I.	483,060	445,983	358,436	84,914	2,633	..	
4. Joint Bokaro	E. I. and B. N.	1,227,210	1,090,217	..	..	1,090,217	..	
5. Joint Sawang	E. I. and B. N.	47,591	45,899	..	..	45,899	..	
6. Jarangdih	B., B. & C. I. and M. & S. M.	20,575	21,315	..	..	..	21,315	
7. Talcher	M. & S. M.	130,822	139,570	..	..	..	139,570	
8. Kurasia	B., B. & C. I.	365,826	309,659	..	..	309,659	..	
9. Argada	B. N.	162,383	128,947	..	..	128,947	..	
10. Deulbera	B. N.	67,214	66,776	..	..	..	66,776	
	TOTAL	3,356,549	2,970,025	358,436	84,914	2,298,991	227,684	

The total quantity of coal despatched by railway collieries during 1948-9 amounted to 2,688,876 tons, of which 2,659,100 tons, or 98·9 per cent, were despatched to railways. This represents 26·8 per cent of the total coal consumption of railways during the year.

81. Coking coal.—The particulars of the coking coal produced by railway collieries during the year are summarized in the following statement.

Colliery	Grade and quantity (in tons) of coal produced		Quality of coal and where used
1. Kargali	Grade I—	606,495	Inferior coal of high ash content and poor coking proportion, used entirely for goods service.
	Grade II—	23	Very inferior coal unsuitable for metallurgical purposes owing to high ash content. Used for slow goods and shunting services.
2. Giridih (Kurharbaree and Serampore.)	Sel. A— / Sel. B—	358,436 / 84,914	Best high grade coal, the dust of which is manufactured into hard metallurgical coke for use in Railway Foundries and Workshops. Used for mail and express goods services.
	Grade I—	2,633	Inferior grade coal which cannot be used for production of metallurgical coke unless blended with other high grade coals or specially treated by washing. Used mainly for goods services.
3. Joint Bokaro	Grade I—	1,090,217	Inferior grade coal, the dust of which only is suitable for metallurgical purposes. The seam worked as a whole cannot, owing to high ash content, be used even for blending with high grade coals, unless intensive cleaning and washing is resorted to. Used entirely for goods services.
4. Joint Sawang	Grade I—	45,899	Ditto.
5. Jarangdih	Grade II—	21,315	Very inferior coal, unsuitable for metallurgical purposes. Used for slow goods and passenger services.
6. Argada	Grade I—	128,947	Inferior grade coal unsuitable for metallurgical purposes owing to its high ash content. Used for goods and shunting services.

82. Total coal consumed by railways.—The total amount of coal consumed on Class I, Class II and Class III Railways during the year is shown below, along with figures for the previous year.

	Tons 1947-8	Tons 1948-9
Class I Railways—		
Indian Government Railways	8,292,567	**9,198,855**
Other Class I Railways	392,691	**376,644**
Class II Railways	226,261	**235,453**
Class III Railways	79,453[1]	**84,795**
TOTAL	8,990,972[1]	**9,895,747**

The distribution by grade of the total quantity of coal consumed by railways is as follows :—

Grade	Tons 1947-8	Tons 1948-9
Selected A	859,308	**1,158,832**
Selected B	1,629,257[1]	**2,154,491**
Grade I	4,261,982	**4,533,986**
Grade II	1,428,145	**1,457,662**
Grade III-A and B	497,827	**205,457**
Small coals	314,453	**385,319**
TOTAL	8,990,972[1]	**9,895,747**

83. Coal mined in India.—In 1948-9, the coal mined in the various provinces of India amounted to 27,438,802 tons as against 26,892,893 tons in 1947, an increase of 545,909 tons.

84. Coal despatched by rail.—The quantity of coal carried by the East Indian and Bengal Nagpur Railways during 1948-9 was 24·45 million tons, or 2·09 million tons more than that carried during the previous year. The comparative figures for the two railways are as follows :—

	Tons 1947-8	Tons 1948-9
East Indian Railway	12,942,295[1]	**14,919,713**
Bengal Nagpur Railway	9,415,855[1]	**9,526,943**
TOTAL	22,358,150	**24,446,656**

[1] Revised figures.

CHAPTER VI

ROLLING-STOCK AND MATERIALS

85. Additions to equipment.—During the year, orders were placed for the following locomotives and rolling-stock for broad and metre gauge Indian Government Railways. The figures exclude the stock built in railway workshops.

	Broad gauge	Metre gauge
Locomotives	400	170
Coaching stock	...	...
Goods stock	3,400	...

New locomotives and rolling-stock actually placed on line during the year are as stated below :

	Broad gauge	Metre gauge
Locomotives	71	33
Coaching stock	233	173
Goods stock	2,629	...

(Figures for coaching and goods stock are in terms of four-wheeled units.)

86. Locomotives.—The average tractive effort per engine expressed in lbs., on Class I Railways during 1948-9 as compared with that during 1947-8, showed a slight increase for the steam locomotives on both gauges. The average tractive effort for Diesel electric locomotive on both gauges and the Electric locomotive on the broad gauge remained the same as during last year. The detailed figures are shown in the following table.

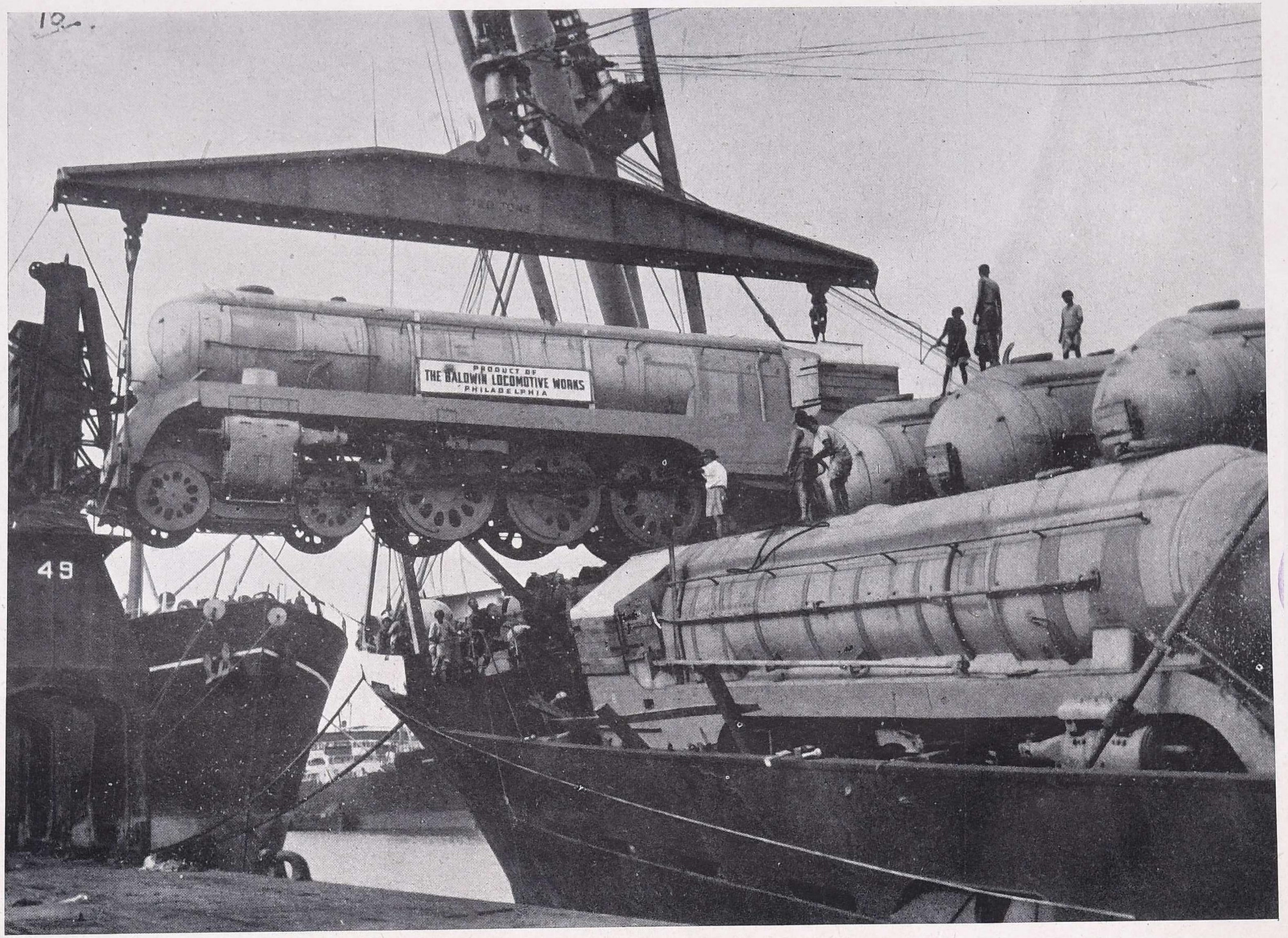
AVERAGE TRACTIVE EFFORT PER ENGINE IN LBS

Locomotives	Broad gauge		Metre gauge	
	1947-8	**1948-9**	1947-8	**1948-9**
Steam (including sentinel and Clayton types)	27,257	**27,430**	15,624	**15,797**
Diesel Electric	25,412	**25,412**	..	..
Electric	30,756	**30,756**	10,400	**10,400**

87. Scrapping of overage and uneconomical locomotives.—During the year railways were advised of the importance of eliminating locomotives which were uneconomical in service, and getting such engines off the line on receipt of new engines allotted to them by the Board. This would not only help to lighten the load on workshops and release capacity for repair of the new engines, but also to enable railways to reclaim spares from the scrapped engines, thus reducing the requirement of such spares for the maintenance of similar engines left on line. Steps in this direction are being taken by the railways concerned, and it is expected that a number of uneconomical and condemned engines will be broken up during 1949-50.

88. Manufacture of boilers and locomotives in India.—The Locomotive Building Works under construction at Mihijam have now been renamed as Locomotive Manufacturing Works, Chittaranjan. A more detailed reference to this project is made in para. 42 of Chapter III.

Messrs. Tata Locomotive and Engineering Company Limited completed 52 boilers during the year.



W. P. TYPE BALDWIN LOCOMOTIVE, G. I. P. RAILWAY BEING UNLOADED. (COURTESY 'TIMES OF INDIA', BOMBAY.)

89. Repairs to locomotives in Railway Workshops and Running Sheds.—Although the average number of engines under, or awaiting, repairs in running sheds increased on some railways, the overall position of engines out of service improved as compared with 1947-8, on both broad and metre gauges.

There was an appreciable increase in the number of locomotives repaired in railway workshops and a decrease in the number overdue periodical overhaul.

Difficulties were experienced by workshops as a result of shortages in particular classes and sizes of steel. There were also shortages of certain spare parts for which the Railways have been dependent upon outside supply. In order to expedite the supply of essential spare parts, it was decided to send a Purchase Mission to visit different countries in Europe with a view to obtaining locomotive spare parts on a rate-contract basis.

90. Rationalization of manufacturing capacity in Railway Workshops.—The Rationalization Committees were regrouped on the basis of the types of locomotives common to each of the railways in the group. A few items have been selected for manufacture by one railway on mass production lines in order to meet all the requirements of the Government Railways.

A special allotment of steel is being made in each quota period for fittings to be made by Ordnance Factories under the Rationalization Scheme.

Good progress has been made with the preparation of part drawings of American type locomotives.

91. Supply of rails and fishplates from indigenous sources.—Reference was made in the last report to the restricted supplies of steel during 1947-8. The position with regard to supplies of steel has been no better during the current year. The indigenous production of rails and fishplates during 1948-9 was placed at about 72,000 tons, out of which 52,809 tons were to be supplied against unexecuted outstanding orders from previous years with the indigenous firms, *viz.*, Messrs. Tata Iron and Steel Company Limited and the Steel Corporation of Bengal Limited. The balance was allocated against 1948-9 requirements. The actual out-turn by the two firms during 1948-9, however, amounted to only 58,557 tons of rails and 3,827 tons of fishplates, or 62,384 tons in all, instead of 72,000 tons, as expected.

92. Wooden Sleeper Purchase Organization.—The total value of timber and sleepers purchased by Class I Railways (excluding the Jodhpur, Mysore, and Nizam's State Railways) during 1948-9 was as follows:

	(In thousands of rupees.)
Timber	1,71,70
Sleepers	1,05,71

The relative position of various kinds of sleepers may be seen from the following percentages based on the total number of sleepers in the tracks of Class I Railways, excluding the Mysore Railway.

(Figures are in percentages.)

	Wood	Cast iron	Steel	Others
Broad Gauge . .	27·09	50·34	22·23	0·34
Metre Gauge . .	69·62	4·86	25·52	...

The Wooden sleeper track mileage, including sidings, of the broad, metre and narrow gauges on Class I Railways, excluding the Mysore Railway, as on 31 March 1949 was as follows:

	Miles
Broad Gauge	7,075·11
Metre Gauge	10,517·11
Narrow Gauge	1,291·67
TOTAL .	18,883·89

out of a grand total mileage, excluding sidings, of:—

	Miles
Broad Gauge	15,650
Metre Gauge	12,622
Narrow Gauge	1,864

No wooden sleepers were imported for use by Indian Railways.

The average price of 1st Class Sal sleeper in the Eastern Group was:—

Broad Gauge	Rs. 18-8-0 per sleeper
Metre Gauge	Rs. 8-0-11 ,, ,,

At the Dhilwan creosoting plant on the Eastern Punjab Railway, 238,948 Broad Gauge sleepers of coniferous species were treated with a mixture of 40 per cent creosote and 60 per cent of fuel oil during 1948-9. The details are given below:

—		*Fir*	*Chir*	*Kail*
No. of sleepers treated		4,614	230,267	4,067
Average absorption of mixture per sleeper	lbs.	14·68	14·92	14·89
Cost of treating per sleeper	Rs.	1-13-6	2-7-7*	1-12-11

* Higher cost of treating *chir* sleepers is on account of higher transport charges to Dhilwan namely Rs. 0-10-8 as compared to Rs. 0-2-9 for fir per sleeper.

Besides these, a number of sleepers for Bhakra Dam, Sleeper ends, Poles and Metre Gauge sleepers, etc., equivalent to 49,263 Broad Gauge sleepers, were also treated during the same period.

At Naharkatiya Treating Plant in Assam 7,055 Broad Gauge and 154,170 Metre Gauge sleepers of various species like *Hollong*, *Hollock*, *Jutli*, *Sam* and *Makai* were treated during the year. The cost of treatment per sleeper was Rs. 4-6-5 per Broad Gauge and Rs. 2-3-2 per Metre Gauge sleeper.

93. Value of railway materials purchased.—The total value of stores purchased by the Indian Government Railways during the year, including the Eastern Punjab and Assam Railways amounted to Rs. 100·44 crores.

The value of stores purchased by Indian Government Railways, excluding the Eastern Punjab and Assam Railways which came into existence on 15 August 1947, increased from Rs. 78·29 crores in 1947-8 to Rs. 91·91 crores in 1948-9. The value of indigenous materials purchased increased by Rs. 7,20 lakhs and that of imported materials by Rs. 6,42 lakhs. There was a general increase under all the heads of purchases, except under miscellaneous stores, which recorded a small decrease of Rs. 29 lakhs. This item is shown in the statement below as " All other stores ". The main items of increase were under ' stores hardware ', copper, tin, etc., by Rs. 6,05 lakhs, permanent way materials and track tools by Rs. 3,17 lakhs, and rolling-stock by Rs. 2,48 lakhs. Electric and train and locomotive lighting plants, etc., advanced by Rs. 99 lakhs, workshop machinery, etc., by Rs. 52 lakhs and building materials, water mains, etc., by Rs. 56 lakhs.

The following statement presents a summary of the stores purchased during 1948-9 and the corresponding figures for 1947-8. The detailed figures are given in Appendix A of Volume II of this Report.

VALUE OF RAILWAY MATERIALS PURCHASED DURING 1948-9

(Figures in lakhs.)

Particulars	Including Eastern Punjab and Assam					Total purchases excluding Eastern Punjab and Assam	
	Imported materials						
	Purchased direct	Purchased through agents in India	Total imported materials	Indigenous materials	Total	1948-9	1947-8
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
(A) Bridge work and its parts, fittings and special fastenings.	..	..	..	3	3	3	2
(B) Engineering plant and components including all hand and power machinery.	13	11	24	12	36	28	15
(C) Workshop machinery, plant and equipment including pneumatic machinery and tools.	39	67	1,06	16	1,22	1,20	68
(D) Permanent way material and track tools.	1,04	82	1,86	6,03	7,89	6,87	3,70
(E) Rolling-stock . . .	74	5,76	6,50	3,27	9,77	9,41	6,93
(F) Building materials, water mains, sewage system and track and yard enclosing materials and signal and interlocking materials, etc.	3	21	24	1,59	1,83	1,42	86
(G) Stores, hardware, copper, tin and zinc-ware, all leather, canvas and India-rubber in bulk, materials, painters' stores, timber and fuel oil, etc.	7	1,46	1,53	22,91	24,44	22,23	16,18
(H) Electrical and train and locomotive lighting plants and materials, etc., and telegraph and telephone equipment.	26	1,09	1,35	1,11	2,46	2,20	1,21
All other stores	8	1,57	1,65	50,79	52,44	48,27	48,56
Total .	2,74	11,69	14,43	86,01	1,00,44	91,91	78,29

94. Intake of indigenous goods.—Of the total value of purchases of railway stores and materials made during 1948-9 by the Indian Government Railways, the value of stores imported direct amounted to Rs. 2,73·97 lakhs. Imported stores purchased in India accounted for Rs. 11,69·33 lakhs. Stores of Indian manufacture or indigenous origin have naturally accounted for the bulk of the expenditure, the amount during the year being Rs. 86,00·88 lakhs or 85·63 per cent of the total.

The comparative figures of total purchases for 1947-8 and 1948-9 in respect of the Indian Government Railways (including the Eastern Punjab and Assam Railways) are given below. These include purchases made through the Ministry of Industry and Supply and other Government agencies, and purchases of foodgrains for Railway grainshops.

TOTAL VALUE OF PURCHASES OF STORES

(In lakhs of rupees.)

Year	Stores imported direct	Imported stores purchased in India	Stores of Indian manufacture or indigenous origin	Total value of imported and indigenous stores	Percentage of col. 4 to col. 5
1	2	3	4	5	6
	Rs.	Rs.	Rs.	Rs.	Rs.
1947-8	2,66·84	4,92·60	73,99·66	81,59·10	90·70
1948-9	2,73·97	11,69·33	86,00·88	1,00,44·18	85·63

95. Value of stores purchased through the Ministry of Industry and Supply.—The comparative figures of the value of stores purchased through the Ministry of Industry and Supply for 1947-8 and 1948-9 are given below:—

STORES PURCHASED THROUGH THE MINISTRY OF INDUSTRY AND SUPPLY

(In lakhs of rupees.)

Year	Total value of stores purchased	Value of stores purchased through the Ministry of Industry and Supply	
		Amount	Percentage of total value of stores purchased
1	2	3	4
	Rs.	Rs.	Rs.
1947-8	81,59·10	12,10·29	14·83
1948-9	1,00,44·18	55,01·20	54·77

NOTE.—(i) The figures for 1947-8 exclude purchases made for the Railway Board and the Chief Mining Engineer, as also the value of purchases made by the Textile Commissioner, Bombay, Director-General, India Store Department, London, India Supply Mission, Washington and Coal Commissioner, on behalf of the Indian Government Railways.

(ii) The figures for 1948-9 exclude purchases made for the Railway Board and the Chief Mining Engineer, but include those made by the Director-General, India Store Department, London, India Supply Mission, Washington, Textile Commissioner, Bombay and the Director-General of Industries and Supplies, New Delhi, on behalf of the Indian Government Railways, as also the value of coal supplied by the Coal Commissioner to the Indian Government Railways, from the Bengal and Bihar coalfields.

96. Value of stores purchases controlled by the Railway Board.—As in previous years, the Railway Board continued to purchase wagons for the Indian Government Railways. The value of the stores thus purchased during 1947-8 and 1948-9 by the Railway Board is given below:—

STORES PURCHASED BY THE RAILWAY BOARD

(In lakhs of rupees.)

Year	Total value of stores purchased	Value of stores purchases made by the Railway Board	
		Amount	Percentage of the total value of stores purchased
1947-8	81,59·10	4,15·32	5·1
1948-9	**1,00,44·18**	**3,04·77**	**3·0**

The Board also exercised a great deal of control in the case of purchases of locomotives, boilers, rails and sleepers for Railways during the year under review; but the actual orders for these items are placed either by he Railways direct (as in the case of wooden and cast iron sleepers) or through the Ministry of Industry and Supply. The value of these items amounted to Rs. 11,86·63 lakhs during 1948-9 as compared with 5,14·34 lakhs during 1947-8. The wagons referred to above were manufactured in India.

97. Value of cash purchases in North America, controlled by the Railway Board.—The total debits raised by the Deputy Accountant General, Industries and Supplies, New Delhi, against various Railways during the year 1948-9 on account of Cash Purchases in North America, controlled by the Railway Board amounted to Rs. 11,52,53,079. These debits represent the cost of all purchases made in the U. S. A. for Railways including the cost of rolling-stock, spares, rails, etc.

98. Direct purchases by Railways.—The value of direct purchases by Railways during 1948-9 amounted to Rs. 42,38 lakhs as compared with Rs. 65,34 lakhs during 1947-8.

99. Stores balances.—The statement below compares the total stores balances at the end of 1948-9 with those at the end of 1947-8. The figures are provisional as the accounts for the period ending 14 August 1947 have not so far been closed:

VALUE OF TOTAL STORES BALANCES ON RAILWAYS DURING 1947-8 AND 1948-9

(In lakhs of rupees.)

Railways	1947-8	1948-9
Assam	36	**1,05**
Bengal Nagpur	4,23	**4,97**
Bombay, Baroda and Central India	3,06	**3,06**
Eastern Punjab	3	**1,33**
East Indian	8,65	**11,43**
Great Indian Peninsula	6,16	**7,31**
Madras and Southern Mahratta	1,95	**2,47**
South Indian	1,54	**2,02**
Oudh Tirhut	1,51	**1,21**
Other Indian Railways	91	**1,59**
TOTAL	28,40	**36,44**

100. Timber supply situation.—On account of the general shortage of timber, the railways were unable to obtain supplies to their full requirements. The table below shows the quantity demanded and the quantity passed by the Railways during 1948-9.

SUPPLY OF TIMBER AGAINST INDENTS DURING 1948-9

(Figures in ton

Year	Quantity indented by the Railways	Quantity passed by the Railways
II Quarter of 1948	8,823	20,145*
III ,, ,, 1948	37,295	9,938
IV ,, ,, 1948	4,871	10,183*
I ,, ,, 1949	16,022	6,020
TOTAL	67,011	46,286

* Includes arrears.

At the end of the year, the working stocks of Class I Railways (except Mysore State Railway) totalled 27,893 tons.

101. Steel supply situation.—During the year 1948-9, the demands of railways for steel (excluding rails and fishplates) for essential mechanical and civil engineering requirements amounted to approximately 260,000 tons. On account of the decline in indigenous production, the allocation to railways during the year was curtailed to 181,000 tons, covering only about 70 per cent of the minimum requirements. The reduced supply was used exclusively for essential repairs to permanent way, locomotives and carriage and rolling-stock.

In view of the extensive use made of all vehicles and locomotives during the period of hostilities and the considerable arrears of maintenance and repairs that had accumulated thereby, the reduced tonnage of steel proved insufficient to meet the full quantity required to maintain normal repair schedules. The out-turn from railway workshops was, therefore, adversely affected.

The unfavourable steel situation also resulted in orders for replacement of coaching vehicles and General Service Wagons being severely restricted and during the year under review, it was not possible to place an order for more than 3,300 General Service Wagons, this number representing 40 per cent of the capacity available in the country with the wagon building firms.

As regards rails and fishplates, supplies to Railways from indigenous sources during the year 1948-9, were restricted to the extent of 71,000 tons. This tonnage was quite insufficient to meet Railways' minimum demands for efficient maintenance of the permanent way and to provide for the essential requirements for projects of national importance. Orders to the extent of 100,000 tons of rails and fishplates were, therefore, placed on Canadian firms for import during the year.

102. Supply position of vital stores or components of first importance.

Indigenous stores.—The position with regard to the supply of indigenous stores for items necessitating the use of steel was unsatisfactory throughout the year under review on account of acute shortage. Shortage of indigenous capacity in respect of certain other items also affected the delivery position.

The vital items concerned were permanent way, fittings, axles, steel castings (mainly on account of lack of machining capacity), and fabricated steel work for bridge and similar allied permanent way structures. Other items of importance where delays in supplies occurred were cast iron pipes, on account of shortage of indigenous capacity and fire-bricks. Difficulties in movement and transport of raw materials were stated to be the cause of the delayed supply of these items of stores.

Towards the end of the year, there were encouraging signs of accelerated supplies in the future on account of improvement in the general transport position and better prospects of availability of steel.

Imported Stores.—Delivery of railway stores and equipment from the United Kingdom during the year was affected by the acute shortage of steel in that country, where, in spite of the expanding output, the demand far exceeded the supply. This was especially the case in regard to the supply of laminated bearing springs as well as helical and volute springs, delivery dates quoted by manufacturers being postponed to 18 to 24 months from the date of the contract. The supply of locomotive boilers to the Indian Government Railways provided another instance of the unsatisfactory situation, deliveries in this case being quoted as far off as three years. Supplies of other vital items, such as, vacuum brake equipment, injectors and buffer, and buffer components for metre gauge stock, remained unsatisfactory throughout the year.

Supplies of boiler tubes, boiler plate, steel castings, crank axles and tyres, were, however, maintained at a fair level during the year.

The position was most disappointing in regard to supplies of coloured signal glass, and chains of all descriptions, such as lashing chains, binding chains, and sling chains. Orders placed as far back as five years ago remained uncompleted.

The year, however, ended more hopefully with encouraging signs of improvement in supplies for a number of commodities.

The following were the main items of stores which were outstanding at the close of 1948-9 against orders placed in previous years:—

Serial No.	1944 indents	1945 indents	1946 indents	1947 indents	1948 indents
1	Chains	Chains	Chains	Chains	Spring
2	Boilers	Boilers	Boilers	Boilers	Boiler tubes
3	..	..	Lenses	Lenses	Glass sheets
4	..	..	Motor coaches and trailers	Motor coaches and trailers	Steel castings
5	..	..	Loco. spares	Loco. spares	Loco spares
6	..	..	Pumps	..	..

The main items of importance on order from the Uuited States of America were spare parts for the locomotives manufactured in North America now in service on the Indian Government Railways. There was no dearth of capacity for manufacturing these spare parts in the United States of America, but, at intervals, the scarcity of certain raw materials hampered manufacturers and affected the period of delivery quoted, which was normally from three to five months. During the year, shipment of spare parts against 1947 and 1948 demands by Railways were maintained at a steadily increasing level.

The supply position of stores *ex* Australia has been satisfactory and orders for only 42 items, mainly consisting of boiler gauge glasses, remain to be completed by that country.

103. Situation regarding theft of railway property.—No cases of thefts of stores and valuable materials from Stores Depots were reported to the Board in the course of 1948-9.

104. Water softening.—During the year under review one more water softening plant was installed by the Bombay, Baroda and Central India Railway.

CENTRAL STANDARDS OFFICE FOR RAILWAYS

105. Civil Engineering Wing.—Investigations were carried out and designs were prepared for a large number of civil engineering works including bridges, track, structures, signalling and interlocking and buildings.

The activities of the Standards Committees were considerably increased by the formation of two additional committees, namely, the Structures Standards Committee and the Building Standards Committee. There are now five Standard Committees in the Civil Wing, namely :—

(*a*) The Bridge Standards Committee,
(*b*) The Structures Standards Committee,
(*c*) The Track Standards Committee,
(*d*) The Signalling and Interlocking Standards Committee,
(*e*) The Building Standards Committee.

The more important items dealt with by these Committees are referred to separately.

The Civil Engineering Wing was consulted by the railways as well as by the Railway Board on a large number of technical problems and have had to undertake the functions of Consulting Engineers to the Railways in a small way. The work done by the Civil Engineering Research Wing is given in paragraph 107.

Considerable expansion in civil engineering research work in the near future has been arranged and necessary equipment ordered to enable the four branches, Structural, Track, Soil Mechanics, and Buildings of Civil Engineering Research to tackle urgent railway problems. Amongst the more important equipment for which indents have been placed, or for which arrangements are in hand are additional oscillograph equipment, rolling load fatigue testing machine, photo-elastic equipment, additional equipment for soil mechanics research, and equipment for carrying out research in the latest techniques of reinforced concrete.

A revised Track Manual was issued.

The technique of pre-stressed concrete has been used for designing railway girders, and girders of 60′ and 40′ spans have already been installed successfully. Exhaustive research is in hand on this type of construction. The introduction of pre-stressed concrete girders on the Railways will result in a considerable saving in steel. Designs of 100′ Broad Gauge spans are in hand.

The Civil Engineering Wing participated actively in :—

(*a*) the preparation of an All-India Code of Practice for reinforced concrete by the Indian Standards Institution,

(*b*) the preparation of a Code of Practice for Road Bridges by the Indian Roads Congress,

(*c*) the Weights and Measures Committee of the Indian Standards Institution,

(*d*) the preparation of Indian Standards Specifications for cement, reinforcement, etc., and

(*e*) the research meetings of the Central Board of Irrigation.

The more important designs undertaken during the year included :—

Bridges—

(*a*) Pre-stressed concrete girders for 60′ and 40′ M.G. M.L. Standard,
(*b*) Pre-stressed concrete girders for 40′ and 100′ B.G. M.L. Standard,
(*c*) Reinforced Concrete slab for 20 ft. M.G. M.L. Standard,
(*d*) 60 ft. span B.G. M.L. Standard (H.T.S. and welded types).

Structures—

(*e*) Road-rail deck bridge using aluminium alloys,
(*f*) Rigid frame 30 ft. goods shed,
(*g*) Flood lighting tower 100 ft. high.

Track—

(*h*) 1 in 12 and 1 in 8½ left turnout with spring crossing (without helical springs) and 21 ft. and 15′-6″ over-riding switch for 90R B.S.S. respectively,

(*i*) Pre-stressed R.C. sleepers B.G. Class C,

(*j*) Two-way keys bearing plate anti-creep cast iron for B.G. 90R,

(*k*) 6″ deep section of 90 lb., 80 lb. and 50 lb. rails and fishplates.

Signalling and Interlocking—

(*l*) Signal arms and adjusting sleeves.

General—

(*m*) Publication of Indian Railways Standard Code of Practice for the construction of reinforced concrete structures for the storage of liquids,

(*n*) Issue of a revised edition of the Steel Structures Code and a number of correction slips to the Reinforced Concrete Code and Steel Structures Code.

106. Mechanical Engineering.

(*A*) *Locomotive Design and Standardization.*—During the year, the more important drawing and design work undertaken included the following items :—

(*a*) arrangement of radial arm spring controlled front truck with friction slides for new broad gauge locomotives,

(*b*) tentative diagrams of WL, WS, YG, YL, YM, YP and YS Class locomotives for forwarding to C.M.Es. with a view to obtaining comments before finalization,

(*c*) preparation of draft Particular Specifications for WG, WS, YG, YL, YM, YP and YS Class locomotives,

(*d*) preparation of Master lists of Spares for WP, WG, YB, YP, YG, ZB, and ZE Class locomotives,

(*e*) arrangement drawings for spring loaded intermediate draw and buffing gear between engine and tender with draw bar passing through the centre of the rubbing blocks for WP, WG, YP, YG Class locomotives,

(*f*) preparation of designs of Emblems for Ministers' and Railway Board's Saloons and R.M.S. vans,

(*g*) limit of wear sizes and application of tyres to carrying wheels of MAWD Class locomotives,

(*h*) preparation of statement of electrodes in use on railways,

(*i*) preparation of Tables regarding rationalization of locomotive power and particulars of future broad and metre gauge locomotives,

(*j*) arrangement drawing for application of asbestos insulating material to clothing sheets in connection with the agenda for the I.R.F.C.,

(*k*) arrangement drawing to permit provision of secondary air from firebox sides below the level of the firebrick arch in connection with the agenda of the I.R.F.C.,

(*l*) normal work of the locomotive drawings office in keeping the standard drawings of locomotives up to date.

(B) *Carriage and Wagon Design and Standardization.*—The more important Carriage and Wagon drawings and design work undertaken during the year, are given below :—

(*a*) design of M.G. cattle and goods wagons,

(*b*) interior layout and profile of B.G. and M.G. coaches,

(*c*) interchangeability of M.G. couplers (I.R.S., I.R.C.A., U.S.A),

(*d*) modifications to Watson type bogie,

(*e*) preliminary design of 12,000 gallons bogie tank wagon, BTP type,

(*f*) the normal work of the Carriage and Wagon drawing office in maintaining Standard Drawings of Rolling-stock.

RESEARCH

107. Civil Engineering Research.

(A) *Structural Research*—

(a) *Tests on Batten Plated Struts.*—The Indian Railway Standard Code of Practice for the design of railway bridges contains regulations for the design of latticed struts, but no rules were laid down for the design of batten plated struts. Welding is being increasingly employed in fabricating steel structures as thereby considerable economy in the use of steel is obtained.

Investigations and tests were carried out on 16 half scale columns, the size of which corresponded to the proposed 150-ft. girder spans for the Mahi Bridge on the Bombay, Baroda and Central India Railway. As a result of these tests, rules for the design of struts with welded batten plates were framed.

(b) *Tests on trough sleepers on bridges.*—Trough sleepers for bridges have been designed but before standardizing, tests were carried out on two spans, one fitted with isolated trough sleepers and the other with continuous troughing. A few condemned wagons loaded to capacity were derailed and stresses in the troughs measured.

From these tests, it is found that isolated troughs can be more easily removed and repaired and as they are also lighter, they are preferable to continuous troughing.

(c) *Prestressed concrete girder span.*—Owing to shortage of steel, Railways could not obtain steel girder spans for maintenance works as well as for construction. Investigations have been carried out for substituting prestressed concrete girders in place of steel girders and arrangements were made for supplying prestressed concrete girder spans for the Assam Rail Link Project. Before finally standardizing the prestressed concrete girder spans, it was considered advisable to ascertain the factor of safety and the strength of the prestressed concrete girders under overloading, and a 40-ft. span is, therefore, being constructed at Kalyan on the Great Indian Peninsula Railway, for testing.

(B) *Track research*—

All the available experimental data are inadequate to determine the optimum sleeper density for various types of sleepers. In order to determine the minimum sleeper density with every type of sleeper and also to ascertain the lateral strength of track with different types and varying densities of sleepers, test lengths of track have been provided. These test lengths will also enable experiments to be carried out to ascertain the buckling factor of the long welded rail.

(C) *Building research*—

With a view to economy in construction, exhaustive experiments were carried out on (*i*) stabilized pise and adobe construction, (*ii*) precast un-reinforced roof section, (*iii*) waterproof plasters and (*iv*) an economical " Chula ".

(D) *Soil Mechanics research*—

With the equipment now available, all the basic properties including shear strength of soil can be determined and stability of banks and cuttings and the bearing capacity of foundation can be ascertained.

Investigation of the stability of Pier Nos. 2 and 3 of the Malaviya Bridge at Kashi has been carried out.

Sub-soil conditions for the proposed Ganga Bridge at Mokameh have been investigated at site and the bearing capacity of the sub-soil has been estimated from the experience on other constructions with similar conditions.

108. Mechanical Engineering Research.

(A) *Locomotive Research*—

The Dynamometer Car was engaged on a series of trials with XE_1 locomotives on the East Indian Railway in order to determine the effect of the fitting of mechanical stokers on firing rates, combustion efficiency, boiler output, and overall boiler efficiency. Trials were made with Standard 'HT' and Berkeley 'B' type stokers and much useful data were collected on the comparative performance of these two designs.

Comparative injector trials were carried out with the object of determining the capacity of the different types of injectors at different boiler pressures and feed temperatures. The data collected included useful information on the thermal efficiencies of the injectors. The trials covered two proprietary designs, *viz.*, the Gresham & Craven RCWL Injector and the Nathan Injector, in addition to the Standard IRS Simplex Injector. An improved design of the IRS Simplex Injector was worked out for the purpose of these trials.

The Research staff were also engaged in the preparation of a number of technical notes for the second meeting of the Indian Railway Fuel Committee. The work done included a detailed analysis of the relation between firing rates and locomotive performance with the object of providing railways with a basis for scientific trip rationing of coal for passenger and goods services.

Oscillation trials were carried out on AWD/CWD locomotives in order to measure the flange forces set up at high speeds of operation and to study the effect of varying degrees of lateral hind truck control on the stability of the locomotives. From the result of the flange force measurements and the riding tests the maximum permissible speed for these locomotives was fixed at 45 m.p.h.

Oscillation trials of WM locomotives were conducted to ascertain their riding qualities. From the results of the tests, it was found that these locomotives run very steadily at all speeds up to 65 m.p.h. and that the flange forces do not exceed 41 per cent of the axle loading. In consequence, these locomotives have been permitted to run at unrestricted speeds.

Oscillograph Car trials were also carried out with the prototype WP locomotives in order to investigate the propensity of these engines to excessive vertical oscillation at the rear end. The cause of the excessive vertical oscillation was found to be an unusually large pitching couple and the inter-drawgear was redesigned in order to reduce the latter. The modified inter-drawgear has since been fitted on the WP locomotives and has been found to be entirely successful in eliminating the objectionable oscillations.

(B) *Carriage and Wagon Research.*—Stress tests of the new designs of light-weight wagons were carried out. Designs were modified in the light of the data collected and further tests will be done next year before the designs are finalized.

(C) *Fuel Research.*—During the year it was decided to set up a new research unit for fuel research. Up till now, the Dynamometer Car has had to be used for all fuel research even when the tests did not require the use of the dynamometer. The equipment being provided in the Fuel Research Car, will enable measurements to be taken, without the necessity of taking out the Dynamometer Car of fuel consumption, water consumption, fuel gas analysis, pressure and draught, firebox, smoke, superheat, steam chest and exhaust temperatures, and speed.

The Fuel Research Unit is expected to start functioning next year when it will be possible to release the Dynamometer Car for more important work and to make more rapid progress with the research programme.

In view of the vital importance of economizing on the fuel bill of the Indian Railways, amounting now to over Rs. 22 crores a year, approximately two and a half times the pre-war figure, it was decided to set up the Indian Railway Fuel Committee. The Committee has been entrusted with: the work of co-ordinating all railway fuel research; standardization of tests methods for locomotive fuels and fuel trials; the collection of data on the properties and behaviour of different coals and their suitability for various train services; the preparation of a specification for coals suitable for locomotive use; the rationalization of the coal grading and coal distribution policy; research into the efficient combustion of coal, particularly non-coking coal; the determination of the relationship between operating conditions, power ratings and fuel firing rates for different classes of locomotives and different coals in order to provide a basis for scientific trip rationing and for comparing the efficiency and economic suitability of the different classes of locomotives for particular services; the study of the fuel statistics of the different Railways and investigation of reasons for abnormal consumption; research on the economic possibilities of coal benefication; investigation of the possibility of utilizing coal slack for locomotives including a study of the ancillary problems such as the transport and efficient storage of slack, briquetting, etc.; research into the possibilities of different fuel saving devices; the exercising of effective control on 'leakages' of fuel; collaboration with the Locomotive Standards Committee with a view to ensuring that modifications to existing locomotives and designs of new locomotives are conducive to maximum fuel economy; research into the economic possibilities of the use of alternative fuels and the study of alternative forms of traction, such as, gas turbine traction and electric traction.

(D) *Metallurgical and Chemical Research.*—Several trials of joining compositions, including those received from the Council of Scientific and Industrial Research, were carried out. Research in connection with the composition devised by the Central Standards Office has progressed nearly to the final stage. The latest modification of the C. S. O. formula promises success in performance.

The British Cast Iron Research Association and the British Non-Ferrous Metals Research Association were consulted on various subjects relating to foundry problems on Indian Railways. A number of trials on sprayed metals were carried out. Research on Copper-Silicon bronzes, which was held in abeyance, has been taken up and planned.

109. Indian Railway Fuel Committee.—The Indian Railway Fuel Committee is composed of one representative from each of the Class I Railways and representatives of the Fuel Research Institute, the Coal Commissioner and the Chief Mining Engineer, in addition to the Research Officer (Mechanical), who is the *ex-officio* Secretary. The Committee held two meetings during the year. The deliberations covered a wide range and the subjects discussed included the following:—

(*a*) examination of locomotive coals being supplied to the different Railways for similar services and the experience of suitability;

(*b*) rationalization of the coal grading and coal supply policy;

(*c*) evolution of a standard specification for locomotive coals;

(*d*) consideration of ways and means for implementing the decision to replace gradually the supplies of coking coals to Railways by non-coking coals;

(*e*) investigation of the possibility of using pulverized fuel in locomotive fireboxes;

(*f*) investigation of the possible economics resulting from the use of Feed Water Heaters, Kylchap type front ends, devices for the introduction of secondary air into the fireboxes and boiler lagging;

(*g*) survey of the use of coal on Railways for other than locomotive purposes and the possibility of effecting economies;

(*h*) examination of the fuel statistics of the Railways with the object of investigating causes of abnormal consumption and suggesting remedies; and

(*i*) consideration of methods for increasing the yield of such by-products as cinder and smoke box char, including the question of their utilization.

The Committee were of the opinion that the existing Fuel Control Organizations on many Railways were inadequate and recommended that each Railway must have a permanent organization under the control of a Fuel Officer of at least Senior Scale rank assisted by a junior officer or a Senior Fuel Inspector. The Committee laid down a model organization suitable for a railway with 1,000 locomotives on the line and suggested that the existing Fuel Control Organizations be expanded to conform to this scale. A great deal of progress has been made in planning and suggesting means for effecting economy in fuel consumption, but as most of the schemes are yet in the developmental stage, it is not possible to assess the results so far achieved. It is, however, hoped that as and when these schemes are finalized in course of time, considerable savings will accrue.

The principal factors which continue to contribute to higher consumption are—

(*a*) inferior quality of coal supply;

(*b*) abnormal increase in the number of supplying collieries, whereby drivers are continually being issued with different varieties of coal resulting in inefficient handling and firing due to the impossibility of training engine crews in the proper firing technique applicable to the particular variety of coal;

(*c*) large number of locomotives of obsolete design which have had to be retained in service beyond the limit of economic life owing to difficulty in the supply of new locomotives;

(*d*) difficulties in the efficient maintenance of the locomotives in service on account of the scarcity of materials and spare parts.

These difficulties are being gradually overcome. With regard to the first two factors, the Indian Railway Fuel Committee endeavoured to impress upon the Coal Commissioner the necessity for the early introduction of a rational distribution scheme and of tighter control on the quality of coal supplied. There are, however, difficulties in reducing the number of supplying collieries as, in the opinion of the Coal Commissioner, this would seriously jeopardise the interests of the smaller collieries. With regard to the last two factors, the situation is improving with the placing in service of new locomotives and a progressive easing of the supply situation regarding materials and spare parts.

As regards the implementation of the recommendations of the Indian Coalfields Committee, 1946, for the gradual elimination of coking coals from Railway supplies and their conservation for metallurgical purposes, the new designs of standard locomotives evolved in the Central Standards Office are equipped with fireboxes suitable for burning medium grade semi-coking and non-coking coals. As the number of these locomotives in service progressively increases, the requirements of coking coal will be automatically reduced and finally eliminated.

The Ministry of Industry and Supply have been advised that the Railways were prepared to give up immediately about 55 per cent of their requirements of metallurgical coking coal (Sel. A and B Grades), provided adequate quantities of coal of like calorific value were assured to them. The whole question is at present under examination by a Committee appointed by Government in the Ministry of Industry and Supply.

STANDARDIZATION COMMITTEES.

110. Civil Engineering Wing.—Reference is made in the following paragraphs to the type of subjects dealt with by the various Standards Committees. The list does not cover all the items dealt with, but only a few of the more important ones.

Bridge Standards Committee—

(*a*) Design of arches based on elastic theory and on more scientific methods was dealt with.

(*b*) Design of prestressed reinforced concrete girders to main line loading for substituting steel girders which are not easy to obtain.

(*c*) Design of aluminium decking for common road rail deck bridges.

(*d*) Design of precast reinforced concrete slabs for main line loading.

Structures Standards Committee—

(*a*) Construction of structures in aluminium alloys with its inherent lightness, comparative freedom from corrosion, adequate strength, etc.

(*b*) Consideration of welded types of structures with a view to effecting economy in steel by adopting rigid frame design methods.

(*c*) Rapid and economic method of preparing structures for painting by flame cleaning.

(*d*) Rationalized and economical method of proportioning concrete with a view to increasing the strength and effecting economy.

Track Standards Committee—

(*a*) Design of prestressed concrete sleepers in order to overcome the shortage in metal and timber sleepers.

(*b*) Evolution of stronger and lighter fish plate sections with a view to effecting considerable economy in steel in track. 80 lb. rails with a strength nearly equivalent to those of existing 90 lb. rails and fish plates have been evolved, and similarly, 50 lb. rails and fish plates with strength nearly equal to those of existing 60 lb. rails and fish plates have been evolved in the Central Standards Office.

(*c*) Consideration of the length of welded rails particularly with regard to buckling of tracks.

(*d*) Revision of the existing nomenclature for density of sleepers with a view to making it more natural.

(*e*) Consideration of mechanical track appliances with a view to increasing the efficiency in maintenance and reducing labour costs.

Signalling and Interlocking Standards Committee—

(*a*) Standardization of multiple aspect signal fittings.

(*b*) Consideration of double wire signalling and signal arms.

(*c*) Enlarging the sphere of the Signalling and Interlocking Standards Committee and change in its designation.

(*d*) Standardization of electrical signalling components.

Building Standards Committee—

(*a*) Method of effecting economy in building materials and alternative method of construction.

(*b*) Introduction of modular co-ordination in building construction with a view to mass production and standardization.

(*c*) Methods of effecting economy in maintenance of buildings.

111. Mechanical Engineering Wing.

Locomotive Standards Committee.—The Locomotive Standards Committee met in December 1948 and dealt with points which had arisen since 1 April 1948, in connection with locomotive designs and fittings. Recommendations were made on the following important subjects :

(*a*) All-welded ashpan design in two pieces independent of each other, the top portion being secured to the foundation ring and the bottom carried in a horizontal plate between frames. This design of ashpan simplifies construction and has the added advantage of being able to remove the boiler without having to drop the ashpan.

(*b*) Design of superheater header having superheat and saturated compartments in separate units. This design was proposed with a view to overcoming cracks experienced in partition walls, but it was considered that the design of superheater in one unit which incorporates air passages between the saturated and superheat passages to act as insulating spaces to preclude the possibility of cracking of the compartment walls, on the lines of the Superheater Company's 'A. M.' type was an improvement on the proposal and was adopted.

(*c*) Introduction of spark arrestor screen in smoke boxes in conjunction with ash ejector apparatus. These fitments have been introduced with a view to reducing fire hazard in coaching stock caused by sparks emitted from the locomotive entering compartments.

(*d*) Design of the future standard metre gauge passenger and goods locomotives, 4-6-2 type 'YP' class and 2-8-2 type 'YG' class respectively. A pilot order of 20-'YP' class locomotives and a bulk order for 150-'YG' class locomotives has been placed in North America and deliveries are expected to commence at the end of 1949.

(*e*) Acceptance of departures from I. R. S. practice in designs and features specified for the bulk orders of the 'WP' and 'WG' and 'YP' and 'YG' class locomotives on order. Adverse reports on the performance of certain designs and features subsequent to their adoption led to alternative designs and features, which have been known to give satisfactory results, being specified in the Particular Specifications for the locomotives in question.

Since this constituted a departure from existing policy it was necessary to obtain and record the Committee's acceptance to these departures being introduced.

(*f*) Apparatus for detection of flaws and inspection of materials and welds of a suitable type for use in Indian Railway Workshops. The provision of such apparatus in Workshops was considered desirable by the Committee and the report of a Special Officer deputed to investigate suitable types available on the market will be considered at the next meeting.

Results of trials of experimental fittings were examined. It was considered that further experience was indicated before a conclusion could be reached in the case of 13 trials and it was decided that these trials be continued. Ten trials were closed of which four experimental fittings were adopted as the future standard. One new trial was introduced to determine whether mechanical stokers are justified for locomotives employed over sections where firing capacity is proving up to or beyond the limit of manual firing.

Brief particulars of fittings and features that were adopted as a result of satisfactory trials, are given below :—

(*a*) Injector steam valve on firebox side of I. R. S. design embodying certain improved features. The valve body has been redesigned to permit of its application on either the left or right hand side of the firebox and to accommodate a tail end provided on the valve spindle.

(*b*) Solid cast iron dished pattern piston head for diameters of less than 18″. This design of piston head has been adopted in supersession of a box pattern piston head having a cast steel centre with cast on iron bull ring.

(*c*) Perforations for grease distribution in connecting rod big end and coupling rod floating bushes with alternative methods of grease supply. The arrangement of perforation adopted, which, although providing very limited grease admission area, effectively distributes the grease over the whole length of the bearing. The arrangement provides for 15 grease admission holes in the big end bearing, not one of which is of the same circumference as another. And by drilling the holes on a system of staggered spirals the surface of the bearing is completely covered by grease feeds at each revolution.

The location of grease nipples and method of grease supply has been left to the discretion of the designer as it was not considered desirable to express a preference for any particular location which may handicap the designer.

112. Carriage & Wagon Standards Committee.—The Carriage and Wagon Standards Committee held its 28th Meeting in February 1949 and dealt with an agenda of 61 items. Among the subjects considered by the Committee were :—

(*a*) an examination of designs for the proposed all-steel lightweight coaches of 11′-8″ width for the Broad Gauge system and 9′-4″ width for the Metre Gauge system, with particular reference to the floor plans,

(*b*) a study on the adoption of aluminium in carriage and wagon construction,

(*c*) the interior panelling of coaches using resin-bonded plywoods and laminated plastic panels to obtain maximum reflectivity combined with a pleasing decor,

(*d*) laying down standards for the interior furnishing and amenities in various classes of compartments and lavatories consequent on the reclassification of passenger accommodation enforced since 1 January 1949,

(*e*) the thermal insulation of all-steel coach bodies and petrol tanks,

(*f*) a study of lightweight bogie designs proposed for the future 11′-8″ coaches,

(*g*) an examination of problems attached to the provision of drinking water facilities in Class III coaches,

(*h*) consideration of machine tool requirements with regard to the maintenance of future all-steel coaches.

113. Electrical Standards Committee.—The Electrical Standards Committee met during the year. A resumé of the main items dealt with by the meeting is given below:

(*a*) The question of adopting a standard system of air-conditioning for broad and metre gauge stock was discussed and, in addition to this subject, the design of ice-activated refrigerator vans, domestic type refrigerators for railway coaching stock, and domestic type air-conditioning equipment was also discussed.

(*b*) A decision was taken with regard to the adoption of the Single Battery system as the future Indian Railway Standard as against the old Double Battery system which has been the standard for many years. In addition to this, a decision was taken with regard to the modifications to the existing standard coach wiring diagram to provide for greater protection in the electrical circuit and to provide facilities for attention during service. An up-to-date load schedule for electrical equipment was also discussed.

(*c*) The Committee approved of the adoption of fluorescent lighting for coaching stock, but preferred to carry out trials with various types of equipment before a standard could be decided upon. Coupled with this subject was the question of the preparation of an All-India Specification to cover fluorescent lighting fittings for use in offices, station platforms, roads, etc.

(*d*) A recommendation was made with regard to the purchase from abroad of train lighting belting as opposed to the present supplies of indigenous belting which are not up to the required specification. It was also decided that the existing type of Walker belt fastener for train lighting belts was satisfactory.

(*e*) The Committee recommended that an organization be set up for the manufacture of train lighting and other electrical spare parts in the country.

114. Specifications Standards Committee.—The Standing Committee on Standards and Specifications met during the year. A resumé of the main items dealt with by the meeting is given below:

(*a*) A decision was taken to recommend the purchase of cotton or cotton-jute paulins for railway purposes as a result of trials carried out over a period of years.

(*b*) A consolidated statement of brands and grades of electrodes was considered with a view to modifying the "I. and S. Guide to Indentors" on this subject. A recommendation was made for the preparation of I. R. S. Specification for bare and coated electrodes.

(*c*) The revision of I. R. S. Specification was given consideration. Particular attention was paid to the revision of Specification Nos. R-6 and R-32 for Carriage Underframes and Wagons, and Steam Locomotive Engines and Tenders, respectively.

(*d*) Recommendations were made for the preparation of I. R. S. Specifications for leather cash bags, carriage cleaning compounds, carriage and wagon roof, waterproofing material, waterproof garments, such as, capes, raincoats, etc., and for the modifications to the I. and S. Specification for brass wire.

(*e*) The adoption of five grades of solder in place of the nine grades catered for by the old specification was approved.

115. General.

(*a*) *Inspection of Boilers at Telco Works, Tatanagar.*—The periodical inspection records of the Inspecting Officer for Railways, Tatanagar, showing the progress in the out-turn and despatch of SGS U. K. and U. S. A., and 'YB' Boilers to Railways and test certificates continued to be regularly received in the C. S. O. and examined carefully with a view to detect any departure from the standard designs, specification, and accepted boiler practice.

Loco. Part Drawing Scheme.—The Railway Board have sanctioned the scheme for the preparation of locomotive part drawings for the U. S. A. and Canada built locomotives, as well as for the I. R. S. locomotives. The organization for the former is being located temporarily in Jamalpur (East Indian) and Ajmer (Bombay, Baroda and Central India). Actual work has not yet been started owing to the paucity of drawing office staff.

(*b*) The following detail locomotive particular specifications were prepared :—

Locomotives.

1.	'WG'	Broad gauge.
2.	'YP'	Metre gauge.
	'YB'	
3.	'YG'	
4.	'ZB'	Narrow gauge.
5.	'ZE'	

Standardization of fire bricks.—With the object of standardizing fire bricks, *i.e.*, to introduce standard bricks and arches where possible and to reduce the number of non-standard bricks to the minimum, an officer on special duty has been appointed to visit all Indian Government Railways. His report is expected to be completed by November 1949.

(*c*) *Fuel Economy.*—The Indian Railway Fuel Committee was formed during the year as part of the Fuel Economy drive which was intensified and vigorously pursued. The efforts in this direction met with a serious set-back from the latter half of 1946-7 on account of the unsettled conditions in the country owing to general labour unrest, communal disturbances and implementation of the Partition Scheme, resulting in operational inefficiency and consequent increase in coal consumption during the last two years.

With conditions gradually returning to normal, a study of the various causes responsible for increased consumption was felt necessary. The subject of fuel economy was thoroughly discussed in all its various aspects, and the Railway Administrations were instructed to give effect to the recommendations of the Committee as far as practicable.

(*d*) The normal work of keeping Indian Railway Standard Specifications up to date continued throughout the year. One new Indian Railway Standard Specification was issued and 18 Indian Railway Standard Specifications were revised and reissued.

The following particular Specifications for broad and metre gauge Indian Railway Standard rolling-stock and details were prepared :—

(a) Bogie coaching underframes (broad gauge).

(b) Bogie coaching underframes (metre gauge).

(c) 4-wheeled underframes (broad gauge).

(d) 4-wheeled underframes (metre gauge).

(e) BR Type Wagons.

(f) TPR Type Patrol Tanks.

(g) MBVG Type Brake Vans.

(h) MC Type Wagon.

(i) Dismantling, Modifying and Rebuilding metre gauge, U. S. A. Bogie Wagons.

(e) The Central Standards Office was represented on the meeting called by Director General of Industries and Supplies to discuss the requirements of oil and greases of Railways.

The Central Standards Office represented the Ministry of Railways—Railway Board, on the following committees of other technical bodies :—

1. Central Boilers Board.
2. General Council of Indian Standards Institution.
3. Engineering Division Council of the Indian Standards Institution.
4. Chemical Division Council of the Indian Standards Institution.
5. Patent Advisory Committee of the Industry and Supply Ministry.
6. Internal Combustion Engines Research Committee of the Council of Scientific and Industrial Research.
7. Development Committee of the Non-Ferrous Metals Industry functioning under the Director General of Industries and Supplies.
8. Twenty Sectional and Sub-committees of the Indian Standards Institution, such as, Abrasive, Basic ferrous and non-ferrous metals, Belting and rubber products, Cement, Drawing, Heavy chemicals, Lubricants, Paint and allied products, Refractories, Refrigerators, Timber product, Aluminium and its alloys, etc.

Special Committees—

9. Special Committee on Weights and Measures.
10. Bridge Committee of the Indian Road Congress.
11. Research Committee of the Central Board of Irrigation.
12. National Committee for India for the International Conference on Soil Mechanics.
13. Committee for Standardization of Methods and Apparata for Soil Mechanics.

CHAPTER VII

STAFF

116. Number of Staff.—The total number of employees (permanent and temporary) on all Indian Railways and in the office of the Railway Board and other officers subordinate thereto, excluding staff employed on construction, at the end of the year 1948-9 was 912,724 as compared with 900,497 at the end of 1947-8. The total route mileage at the end of the year was 33,861.

117. Cost of Staff.—The following statement shows the number and cost of all staff, gazetted and non-gazetted, permanent and temporary, open line and construction, employed on Class I Railways during the years 1947-8 and 1948-9. Labour employed by contractors is not included.

NUMBER AND COST OF STAFF ON CLASS I RAILWAYS DURING 1947-8 AND 1948-9

Railway	Year	Number of staff on 31 March: Open line: Gazetted Officers	Open line: Non-gazetted employees	Open line: Total	Construction: Gazetted Officers	Construction: Non-gazetted employees	Construction: Total	Gazetted Officers on loan from the Indian Audit and Accounts Service	† Cost of staff during the year ending 31 March: Gazetted Officers	Non-gazetted employees	Total	Total including staff on loan from the Indian Audit and Accounts Service
1	2	3	4	5	6	7	8	9	10	11	12	13
									Rs.	Rs.	Rs.	Rs.
Assam	1948	37	*31,506	*31,543	..	..	..	..	*6,13,093	*1,57,95,199	*1,64,08,292	*1,64,08,292
	1949	**40**	**32,393**	**32,433**	..	..	..	..	**9,98,844**	**2,60,60,461**	**2,70,59,305**	**2,70,59,305**
Bikaner State	1948	21	5,537	5,558	..	..	..	..	1,81,172	28,70,620	30,51,792	30,51,792
	1949	**24**	**5,542**	**5,566**	..	..	..	..	**1,83,448**	**42,26,133**	**44,09.581**	**44,09,581**
Bengal Nagpur	1948	261	102,069	102,330	8	548	556	..	40,93,936	*8,03,54,860	*8,44,48,796	*8,44,48,796
	1949	**306**	**103,339**	**103,645**	..	**24**	**24**	1	**43,33,439**	**9,21,28,513**	**9,64,61,952**	**9,64,92,858**
Bombay, Baroda and Central India	1948	158	85,623	85,781	..	1	1	..	34,17,277	7,86,90,593	8,21,07,870	8,21,07,870
	1949	**161**	**87,055**	**87,216**	..	..	..	..	**33,26,505**	**8,92,21,800**	**9,25,48,305**	**9,25,48,305**
East Indian	1948	313	218,314	218,627	19	3,462	3,481	..	76,28,048	16,48,26,078	17,24,54,126	17,24,68,921
	1949	**300**	**219,984**	**220,284**	**31**	**1,224**	**1,255**	..	**73,90,304**	**20,65,46,638**	**21,39,36,942**	**21,39,36,942**
Eastern Punjab	1948	*75	45,511	*45,586	3	74	77	..	9,95,050	2,31,90,552	2,41,85,602	2,41,85,602
	1949	**83**	**45,273**	**45,356**	**1**	**46**	**47**	..	**16,23,070**	**4,79,10,873**	**4,95,33,943**	**4,95,33,943**
Great Indian Peninsula	1948	238	157,594	157,832	..	..	..	2	50,97,240	10,44,75,021	10,95,72,261	10,96,26,747
	1949	**229**	**162,734**	**163,013**	..	..	..	2	**52,76,119**	**12,26,17,328**	**12,78.93,447**	**12,79,61,975**
Jodhpur	1948‡	41	9,280	9,321	..	..	..	1	6,18,995	*75,13,985	*81,32,980	*81,62,255
	1949	**33**	**6,422**	**6,455**	..	..	..	..	**3,92,923**	**79,79,895**	**83,32,818**	**83,32,818**
Madras and Southern Mahratta	1948	158	77,381	77,539	..	..	..	..	29,27,797	5,28,25,687	5,57,53,484	5,57,53,484
	1949	**147**	**73,918**	**74,065**	..	..	..	..	**27,77,973**	**6,81,35,198**	**7,09,13,171**	**7,09,13,171**
Mysore State	1948	43	9,023	9,066	..	..	..	..	2,33,472	49,06,351	51,39,823	51,39,823
	1949	**52**	**9,778**	**9,830**	..	..	..	..	**2,74,956**	**64,97,803**	**67,72,759**	**67,72,759**
Nizam's State	1948	81	20,094	20,175	4	234	238	..	11,31,123	1,79,82,789	1,91,13,912	1,91,13,912
	1949	**78**	**19,213**	**19,291**	**4**	**305**	**309**	..	**11,85,367**	**2,08,53,211**	**2,20,38,578**	**2,20,38,578**
Oudh Tirhut	1948	133	*50,226	*50,359	..	..	..	1	16,32,325	*3,28,24,376	*3,44,56,701	*3,44,69,201
	1949	**152**	**54,370**	**54,522**	..	..	..	..	**16,60,670**	**4,40,69,112**	**4,57,29,782**	**4,57,29,782**
South Indian	1948	136	53,355	53,491	..	..	..	..	24,43,854	4,54,11,909	4,78,55,763	4,78,55,763
	1949	**143**	**55,766**	**55,909**	..	..	..	..	**22,02,825**	**5,41,81,685**	**5,63,84,510**	**5,63,84,510**
Railway Clearing Accounts Office	1948	6	1,933	1,939	..	..	..	1	73,796	29,98,244	30,72,040	31,04,887
	1949	**3**	**1,962**	**1,965**	..	..	..	1	**75,498**	**29,87,819**	**30,63,317**	**31,11,080**
TOTAL	1948	1,701	867,446	869,147	34	4,319	4,353	5	*3,10,87,178	*63,46,66,264	*66,57,53,442	*66,58,97,345
	1949	**1,751**	**877,799**	**879,550**	**36**	**1,599**	**1,635**	4	**3,17,01,941**	**79,33,76,469**	**82,50.78,410**	**82,52,25.607**

*Represents revised figures for 1947-8 due to changes made by the Railway Administrations in the figures published **last year.**

† The figures of cost represent pay, allowances, passages, provident fund contribution and gratuity.

‡ Represents figures for whole system.

A comparison of the figures for 1948-9 with those for the previous year shows that the total number of staff employed on the open line of Indian Government Railways increased by 13,381 during the year, while the number of construction staff decreased by 2,789.

The total cost of staff including that of staff on loan from the Indian Audit and Accounts Service increased by Rs. 15,32,42,308 during the year. Increases were recorded both in the number and cost of staff on Indian Government Railways.[1]

The increase in the number and/or cost, as the case may be, of staff during 1948-9 is mainly due to the following reasons :—

(1) implementation of the recommendations of the Central Pay Commission including the reclassification of skilled and other workers and the introduction of revised rules for payment of allowances to running staff and the payment of arrears to the staff as a result of these recommendations;

(2) setting up of organizations on the Railways to carry out the Award given by the Hon'ble Mr. Justice G. S. Rajadhyaksha in the trade dispute between the nine Indian Government Railway Administrations and their respective employees;

(3) the exercise of option by railway staff in favour of cash dearness allowance in full in place of dearness allowance *plus* grainshop concessions previously allowed to the staff, as well as the grant of lump sum amounts to some of the staff following the acceptance of the recommendations of the Railway Grainshop Enquiry Committee;

(4) the increase in the rates of dearness allowance;

(5) reorganization of the Cash and Pay arrangements on the Bombay, Baroda and Central India and the Eastern Punjab Railways; and

(6) the creation of certain new posts on the Railways and promotion of staff.

118. Direct recruitment to the Superior Services.—The number of appointments made to the Superior State Railway Services by direct recruitment during the year was 107. Details by departments are summarized below :

Department	Total
Engineering	29
Accounts	8
Establishment	9
Transportation, Traffic and Commercial	29
Transportation (Power) and Mechanical Engineering	31
Other Departments	1
TOTAL	107

119. Promotions.

(a) *Superior Services*.—Eight promotions were made during the year from Class II and Class III Services. These promotions were against vacancies earmarked either for the year 1946-7 or for 1947-8, which could not be filled during the respective years.

(b) *Class II Services*.—Eleven promotions were made to the Class II Service in the various departments.

[1]See Appendix C, Graph No. ix.

120. Railways and Labour.

All-India Railwaymen's Federation.—The relations between the Railway Administrations and labour continued to be generally cordial during the year, though the period was marked by considerable activities on the part of the All-India Railwaymen's Federation in pressing the demands of the staff.

The All-India Railwaymen's Federation held its annual convention at Lillooah on 30 and 31 August 1948 at which they passed three resolutions. Resolution No. I demanded increase in cash dearness allowance to correspond with the rise in the cost of living index and protested against the curtailment in the Railway grainshop concessions. Resolution No. II referred to certain demands relating to the recommendations of the Central Pay Commission which had previously been put forward by the Federation and gave the Ministry of Railways time up to 31 October 1948 for the settlement of those demands failing which the taking of a ballot for a general strike was to be considered by the General Council. Resolution No. III requested Government to take over the administration of non-Government Railways and the introduction of uniformity in their conditions of service and scales of pay.

The All-India Railwaymen's Federation next held a meeting of their General Council at Nagpur on 24 and 25 November 1948 at which the Council passed certain resolutions. One of these resolutions complained against the alleged unsatisfactory fixation of cash dearness allowance and the curtailment of relief in kind. The other resolution reiterating the resolutions passed at the Lillooah Convention and complaining that Government had rejected their demands, resolved that immediate steps should be taken by affiliated unions for a strike ballot on the issues referred to in the Resolutions passed at the earlier Annual Convention held at Lillooah and that, in the event of the ballot being favourable, a notice be issued on the Railway Board to the effect that a general strike would take place by the middle of February 1949. The resolution, however, concluded by stating that the Federation were prepared for an honourable settlement.

After examining these resolutions, Government considered that many of the misunderstandings could be cleared up by a personal discussion with the Federation. The President of the All-India Railwaymen's Federation was accordingly invited for a meeting with the Hon'ble Minister for Transport and Railways at Bombay on 4 January 1949 at which the following were the main subjects discussed :—

(*a*) grainshop facilities;

(*b*) dearness allowance;

(*c*) calling off of the strike ballot;

(*d*) anomalies arising out of the application of the recommendations of the Central Pay Commission to railway workers;

(*e*) setting up of a joint machinery for dealing with the points in dispute between the management and workers; and

(*f*) constitution of a committee for examining the anomalies referred to in item (*d*) above.

After the discussion, it was decided that the talks should be resumed later. Discussions between the Ministry of Railways and the representatives of the All-India Railwaymen's Federation were accordingly resumed in Delhi on 18 January 1949 and continued on 20, 21, 26 January 1949, 12 and 14 February 1949.

As a result of the decisions reached at these discussions, the All-India Railwaymen's Federation decided at their meeting held at Dinapore on 16 and 17 February 1949 to stay action on the results of the ballot for a strike. Some Unions on the East Indian, Oudh Tirhut, Eastern Punjab, Bombay, Baroda and Central India and South Indian Railways which were dominated

by communist influence and which did not accept the decision of the Federation and had become disaffiliated with the Federation, however, gave notices for a strike from 9 March 1949, but no strike occurred though there were a few instances of attempted sabotage.

Towards the close of the period under review, proposals for the setting up of a Joint Advisory Committee for Railways, consisting of representatives of the Railway Board and of railway labour, for dealing with points in dispute between the management and workers were being finalized.

Strike on the South Indian Railway.—Labour trouble commenced on the South Indian Railway during the last week of April 1948 when engine crews working in certain links refused to work trains after completion of 8 hours duty. The trouble spread gradually when a token strike for 24 hours from midnight to midnight of 9 and 10 May 1948 was declared by the South Indian Railway Labour Union. Among loco. shed and running staff about 3,000 employees out of a total of 8,700 joined the strike. Out of a total of 6,500 workmen employed in the workshops of the Railway at Golden Rock, only about 700 struck work. As regards other departments only a few Class IV staff joined the strike. The token strike thus proved a failure. Normal train services were maintained, except that train services were restricted on the section of the Railway affected by the strike. During the strike, a few attempts at sabotage were made at certain places on the system, such as by removing fish plates or otherwise tampering with the track. The situation returned almost to normal by 13 May 1948 except at a few stations. The strike, which was illegal, however, continued in a confused manner, the strikers returning to work at some places and men joining the strike at other places until 6 June 1948, on which date all strikers except a few returned to duty and conditions of working returned to normal all over the system.

121. Grainshops.—In paragraph 121 of the last report, reference was made to the appointment by the Government of India in February 1948, of the Railway Grainshops Enquiry Committee with Shri Mohanlal Saxena as Chairman, and Shri K. Santanam and Shri Khandubhai Kesanji Desai as Members and the terms of reference to it. It was also stated that the Committee commenced its work on 4 March 1948.

The Committee toured over Indian Government Railways, visiting grainshops, studying conditions first hand, and consulting representatives of most railway unions and many individual railway workers as well as railway officials. The Committee submitted its Report to the Government of India in June 1948.

The main recommendations of the Committee are summarized below :—

(1) Each individual railway employee should be permitted to opt for the entire dearness allowance in cash as payable to other Central Government employees or for the continuance of the present cash dearness allowance in accordance with Railway Rules combined with the grainshop concessions in the revised form as stated below. Such option should, however, be exercised within two months of the acceptance of the Report by the Government and should be final and irrevocable, if it is in favour of the full cash dearness allowance. On the Eastern Punjab Railway, however, all grainshops were to be closed.

(2) A single lump sum payment on the following scale should be given to those workers drawing a basic pay of Rs. 50 per month or less, who opt for the full cash dearness allowance, if option is exercised by them within the stipulated period of two months as referred to in item (1) above.

	Rs.
'X' Area—Kanpur, Bombay and Calcutta	120
'A' Area—Towns having a population of 250,000 each	90
'B' Area—Towns having a population of 50,000 or more but less than 250,000	60
'C' Area—All other localities	30

(3) That the grainshops should be retained for those who do not exercise the option as a temporary expedient, but should be restricted to the supply of five essential articles, namely, cereals, pulses, cooking oils, salt and matches.

(4) Except in areas where there is statutory rationing, railway workers should be free to take their entire cereal ration in wheat or rice of medium quality, the scale of ration for every worker being increased from 12 ozs. to 16 ozs. per day, which is the existing standard ration for a heavy manual worker. The scale of ration of other members of the worker's family, however, should remain at 12 ozs. per day as at present.

(5) The selling prices of the commodities should be uniform all over India and should be as follows :—

	Rs.	as.	ps.
(*a*) Cereals—wheat and rice per seer	0	2	6
(*b*) Pulses per seer	0	4	0
(*c*) Cooking oils per seer	0	8	0
(*d*) Salt per seer	0	1	0
(*e*) Matches per box	0	0	6

(6) That the sale of commodities at concessional rates should be confined to railway staff drawing a basic pay of less than Rs. 250, and grainshops should discontinue the practice of supplying commodities to other staff at non-concessional rates. Casual labour should be paid at market rates and all new recruits to railway service should be paid their dearness allowance entirely in cash at the scale prescribed for other Central Government employees and should be excluded from the privilege of the grainshop concessions.

(7) Procurement of wheat and rice, instead of being made by the Railways themselves in the open market should be undertaken by the Ministry of Food of the Government of India, while the arrangement for the supply of matches should be made by the Railway Board direct from match factories to the Railways. The procurement of pulses, cooking oils, and salt should be through open tenders called by Joint Purchasing Committees of Railways consisting of Grainshops Officers, Accounts Officers and two representatives of Labour Unions.

(8) Participation of staff in grainshop management should be secured by the setting up of Committees attached to each grainshop, consisting mainly of representatives of railway workers.

(9) The setting up of Cooperative Stores by Railway workers should be encouraged.

A copy of the Report of the Railway Grainshops Enquiry Committee was sent to the Indian Railway Enquiry Committee for their views. The latter suggested that the grainshop organization should be wound up and the staff compensated for the loss of the measure of relief in kind then received by them. The Committee also made certain other recommendations.

After examination of the recommendations contained in the report and the views of the Indian Railway Enquiry Committee thereon, the Government of India in their Resolution No. E(F) 48 GR 2(43), dated 28 October 1948 promulgated their decision to accept the recommendations of the Railway Grainshops Enquiry Committee subject to the following modifications :—

(*a*) The quantity of the cereal ration should be in conformity with Provincial Rationing Rules, but the difference between the quantity of 16 ozs. per day for the worker and 12 ozs. per day for each adult member of his family and the quantities allowed by the rules should be made up by an addition in the pulse ration equal to half this difference.

(*b*) The grainshops should be continued on the Eastern Punjab Railway also on the same terms as on other railways, and the staff of the Railway be permitted to exercise individual option in favour of the entire dearness allowance in cash or for the continuance of relief in cash and kind, in the same way as employees on other Indian Government Railways.

(*c*) The decision of Government regarding the recommendation in respect of the setting up of co-operative stores by the Railway employees be deferred pending its further examination.

With a view to assisting the staff concerned, orders were issued that the staff residing in rationed as well as non-rationed areas should both be permitted to draw cereal ration only at the retail controlled prices fixed by the Civil Authority for that Area or controlled prices fixed for the contiguous rationed or controlled areas at the scale of 12 ozs. per adult worker and his dependent and 4 ozs. additional for the classified heavy manual worker or the scale prescribed by the Provincial/State Government concerned.

From a review of the position made, it was found that out of 786,575 employees eligible for exercising option, only 363,760 had opted to continue under the Railway Grainshops, the remaining 422,815 having opted out of the grainshops.

The statistics given below indicate the principal activities of the grainshops organization :—

	In March 1949.
(1) No. of shops functioning—	
Static	448
Mobile	141
TOTAL	589

(2) No. of ration card-holders dealing at the shops—	
At concessional rates	413,000
At controlled rates	200,000
TOTAL	613,000

(3) Principal articles sold during the year (in maunds)—	
(*a*) Cereals	9,068,000
(*b*) Pulses	3,070,000
(*c*) All cooking media	817,000

(4) Cost of purchases of all grainshop articles during the year	Rs. 40,93,78,000*
(5) Total amount realized on sales	Rs. 17,57,72,000*
(6) Losses during the year—	
(*a*) Direct loss (on purchases)	Rs. 25,34,74,000*
(*b*) Indirect loss (on staff, freight, etc.)	Rs. 3,45,67,000*

	Zone	In March 1949. Rs.	as.	p.
(7) Average cost of purchases per employee		29	2	0
(8) Expenditure incurred by railways per employee—				
(*a*) On sales		21	6	0
(*b*) On all overheads		3	14	0
(9) Average relief enjoyed per employee	X	24	9	0
	A	23	13	0
	B	23	1	0
	C	25	13	0

* Provisional figures.

122. Canteens.—Reference was made in paragraph 122 of the last report to the progress achieved by railways in the establishment of canteens for the workers with a view to improving their working conditions by the provision of inexpensive and nourishing meals or snacks at their places of work. Twenty-six more such canteens were opened on the Indian Government Railways, bringing the total number of canteens at the close of the year under review to 52. The number of staff who patronized the canteens was on an average 53,000 per day. Most of the canteens served tea and other beverages and light snacks, while in a few, full meals were also made available.

123. Dearness allowance.—In paragraph 123 of the last report the scales of the dearness allowance, as they stood at the close of the year 1947-8 were given. During the year under review, following Government's decision to grant an increase in the rates of dearness allowance applicable to Central Government employees, the increased scales stated below were sanctioned in the case of railway servants drawing a basic pay not exceeding Rs. 250 per month with effect from 1 January 1949.

I. FOR RAILWAY STAFF ON THE CENTRAL PAY COMMISSION RATES OF DEARNESS ALLOWANCE

Pay	Dearness allowance per mensem
Rs.	Rs.
Up to Rs. 50	35
51—100	45
101—150	50
151—200	55
201—250	60

II. FOR RAILWAY STAFF ON RAILWAY RATES OF DEARNESS ALLOWANCE AND ELIGIBLE FOR GRAINSHOP CONCESSIONS

17½ per cent of pay *plus* Rs. 5 per month, subject to the following minima :—

	Rs.
X Area—Pay below Rs. 40	24
,, Rs. 40 and above	25
A Area—Pay below Rs. 40	22
,, Rs. 40 and above	24
B Area—Pay below Rs. 40	19
,, Rs. 40 and above	21
C Area—Pay below Rs. 40	17
,, Rs. 40 and above	19

124. Railway staff and the War.—In paragraph 124 of the last report it was stated that on 31 December 1947 the number of Railway staff on deputation to the Ministry of Defence was one gazetted and 441 non-gazetted. During the year under review the release of railwaymen amounted to 62, leaving the number of railway staff on deputation with the Defence Ministry on 31 December 1948 as one gazetted and 379 non-gazetted. An appreciable improvement in the release of railwaymen is expected in the ensuing year.

125. Railway Service Commissions.—The four Railway Service Commissions at Madras, Calcutta, Bombay and Lucknow were mainly engaged in recruiting Class III staff for Railways and in advising on the appeals received from Class III staff which lie to the General Managers. The reports called for from the Railways and Service Commissions regarding the working of the system under which the Service Commissions advised on appeals were being received towards the end of the year. In addition to the work already handled, the East Indian and Oudh Tirhut Railways Joint Service Commission, Lucknow, was entrusted with the recruitment of Class III staff required by the Eastern Punjab Railway to implement the Adjudicator's Award.

The Indian Railway Enquiry Committee had recommended the abolition of the Commission at Lucknow and reduction in the strength of Members in each Commission. The recommendations are receiving the consideration of the Government.

126. Anti-Corruption Organization.—A vigorous and determined drive to combat bribery and corruption was continued during the year. The existing arrangements were reviewed and a scheme was evolved by the Railway Board with the object of coordinating the activities of the Special Police Establishment and those of Railway Administrations, and tightening up the executive machinery dealing with the detection and investigation of cases. The salient features of the scheme are —

(*a*) setting up of organizations to suit local conditions for the prevention, detection and departmental investigation of corruption on each railway;

(*b*) merely departmental or procedural irregularities resulting in preferential treatment to traders, travellers, contractors or firms should be ordinarily enquired into and disposed of by the Railway Administration concerned. If, however, there is reason to think that receipt of some monetary or other consideration can be established against the railway staff concerned with these irregularities, the cases should be handed over to the Special Police Establishment without delay.

During the year, 297 cases were taken up by the Special Police. Of these, 37 were sent up for trial in courts or before Tribunals, and conviction of 31 persons was secured. This brings the total number of cases so far taken up to 918. In 42 cases, the evidence was not considered sufficiently strong to secure conviction of the railway employees concerned in a court of law and these were referred to Railway Administrations for departmental action. As a result three employees were discharged. In order to keep the public and the general body of railway servants informed of the measures taken and the progress made in this behalf, press notes were issued from time to time, stating the number of convictions obtained, and emphasizing the fact that both the acceptor and tenderer of bribes were liable to punishment under the Law. In addition, individual railways also continued to take action in this respect on their own initiative.

127. Labour Legislation.—The two Acts concerning railway servants were passed during the period under review, namely, (1) The Factories Act 1948, and (2) The Employees State Insurance Act 1948. The Factories Act 1948, mainly a consolidating and revising Act, was to come into force on 1 April 1949. The main provisions of this Act with which Railways were concerned were those relating to the exclusion of railway running sheds from its scope and the exemption of staff employed in workshops from the provisions of Chapter VIII thereof, relating to holidays with pay. These provisions, while not depriving the staff concerned of any important and substantial privileges, were expected to result in administrative convenience.

The Employees State Insurance Act provides for the grant to workers of sickness benefits, maternity benefits, and sick leave with pay subject to certain conditions. The question of the application of provisions of this Act to workmen employed on Indian Government Railways was under consideration during the year.

128. Staff Councils.—It was mentioned in last year's report that Section 3 of the Industrial Disputes Act 1947, and Part V of the Industrial Disputes Rules 1947 had provided for the constitution of works committees consisting of representatives of employers and workmen in industrial establishments but that the question whether staff councils and similar bodies functioning on Railways might be allowed to continue in their existing form and constitution was under consideration. This question was further examined during the year though no final decision was reached.

129. Provision of quarters for railway staff.—As stated in the last report, it was decided to construct four types of quarters for providing residential accommodation for the railway staff viz., *A*, *B*, *C*, and *D* of enclosed type having verandahs. The progress made on the construction of new quarters was, however, not quite satisfactory, and, in order to expedite their construction, greater discretion was given to railway administrations regarding the design and specifications of the quarters, on the condition that these quarters should be built as cheaply as possible, with a life of at least 15 years.

Further, in consideration of the acute shortage of building materials and the limited resources, and with a view to constructing as large a number of quarters as possible within the funds available, it was decided that no new *C* and *D* type quarters should be constructed at present. *B* type quarters were to be constructed, if in the opinion of the General Manager the provision of such quarters was inescapable. This enabled the concentration of available resources mainly on the construction of the lowest type of quarters, viz., *A* type for essential operating staff.

130. Progress in implementation of the Adjudicator's Award.—The Hon'ble Mr. Justice Rajadhyaksha's Award in the trade dispute between the nine Indian Government Railway Administrations and their respective workmen was published in May 1947. After consideration by Government, orders accepting the Award in respect of the first three terms of reference, viz., hours of work, periodic rest and leave reserves, were issued in June 1948. Instructions were issued to Railway Administrations to implement the Award in five phases at six months' interval commencing from 1 November 1948, the implementation in respect of Class IV staff being completed in two phases, Class III staff, except loco. running staff, in three phases and loco. running staff in five phases. The Hours of Employment Regulations would also be revised to accord with the Award.

The number of additional staff required to implement the Award is roughly estimated to be nearly 100,000 men, involving a recurring cost of more than Rs. 10 crores per annum, besides a non-recurring expenditure which may amount to more than Rs. 40 crores for staff quarters, additional terminal facilities, etc. With a view to limiting the additional expenditure and to meet the Indian Railway Enquiry Committee's observation that surplus labour existed on Railways, the Railway Administrations were asked to carry out a job-analysis to assess the surplus personnel that could be absorbed in the implementation of the Award before recruitment was made from other sources. Provision has been made for absorption of the Indian nationals returning from Burma on grounds of alien nationality and of 15,000 men from among the displaced persons from Pakistan in vacancies arising out of the implementation of the Adjudicator's Award.

131. Progress in implementation of the Central Pay Commission's Recommendations.—In the course of the year, the prescribed scales were allotted to a large number of the remaining categories of staff, thereby bringing most of the posts on the Indian Government Railways into a single pay structure in accordance with the Central Pay Commission's recommendations.

A contentious point arose regarding the classification of artisan staff into skilled and semi-skilled. The wide disparity in practice amongst the Railways in this matter made it necessary to appoint a Tribunal on which Labour and Railways were represented under a neutral Chairman nominated by the Ministry of Labour. The Tribunal was charged with classifying artisans as skilled and semi-skilled, and evolving, as far as possible, uniform designations for staff performing the same kind of duties. The Tribunal visited the different railways and reported on 28 May 1948. Orders accepting the report were issued immediately, and have since been implemented.

Some staff were discontented because of certain anomalies which had arisen out of the application of the Central Pay Commission's recommendations, and the Railways were directed to discuss the matter with the Unions affiliated to the All-India Railwaymen's Federation. Cases of hardship, if any, were also included within the scope of the points for discussion. The Unions raised a large number of points, of which about 80 were found to be cases of genuine hardship or anomalies. These were fully examined and dealt with. Others, which were mainly of the nature of demands for upgrading posts or revision of the scales, were also considered. The disposal of these cases formed the subject of discussion at meetings of the All-India Railwaymen's Federation with representatives of the Board from 10 to 12 August 1948.

Subsequently, the All-India Railwaymen's Federation in their Annual Convention held at Lillooah on 30 and 31 August 1948 raised *inter alia* some 20 points arising from the Central Pay Commission's recommendations which required attention.

The main issues raised by the Federation were discussed by the Hon'ble Minister for Railways with the President of the All-India Railwaymen's Federation at meetings held in Bombay and later in New Delhi in January and February 1949. The more important issues discussed were—

(*a*) fixation in the prescribed scales of pre-1931 entrants in cases where their scales were lower than post-1931 scales;

(*b*) weightage for service rendered in the same category of service;

(*c*) constitution of an Anomalies Committee to consider cases of anomalies and hardships;

(*d*) extension of house-rent and compensatory allowances;

(*e*) confirmation of temporary staff;

(*f*) scales of pay for school staff;

(*g*) payment of casual labour;

(*h*) leave rules; and

(*i*) improvement of conditions of service of temporary staff.

Examination of these issues was started immediately and was proceeding at the close of the year.

Another Committee was appointed during July 1948 with Mr. D. P. Mathur as Chairman to review the prescribed basic scales for running staff and the existing running allowance rules, and to suggest appropriate scales and running allowance rules for application uniformly on all Indian Government Railways. The Report of the Committee was considered by Government who made a further improvement in the scales of pay and allowances, and orders were issued in December 1948. For the first time, uniform scales of pay and running allowances have been introduced on all the Indian Government Railways.

132. Training of staff.—As referred to in paragraph 131 of last year's report, instructions were issued to the railways to establish training schools where they do not exist, or to effect modifications in the existing schools in order to meet present-day requirements. During the year, the recommendations of the Indian Railway Enquiry Committee 1947, contained in paragraphs 78-9 and 97 of their report, on the improvement of training facilities for railway staff, including unskilled staff, have been under consideration.

133. Resettlement of demobilised ex-servicemen in reserved vacancies.—Recruitment of ex-servicemen against 70 per cent of the vacancies, which occurred during the period 1 June 1942 to 31 December 1945, and which were reserved for war service candidates to be recruited after the war, was completed during the year. A total of approximately 32,315 ex-servicemen have been recruited against these vacancies on the Indian Government Railways with the exception of the Assam Railway. No recruitment of ex-servicemen has been made on the Assam Railway, as the railway was formed as the result of the partition of India and it has not been possible, to determine what its share of war service vacancies existing on the ex-Bengal Assam Railway would have been and how many of these had already been filled prior to partition. The figure stated above does not include the number of ex-servicemen recruited by the pre-partitioned North Western and Bengal Assam Railways.

134. Activities of the Medical Department.—A brief account of the formation and activities of the Medical Department on Indian Government Railways was given in paragraph 133 of the last report. Consideration of the report on the reorganization and development of medical services on Indian Government Railways was still in progress, during the year, along with the general question of the policy to be adopted in regard to medical arrangements on railways in future.

The activities of the Medical Department during the year continued to be well maintained. On certain railways, there have been extensions to the existing hospitals, increase in the number of beds and additions to important equipments, such as X-ray apparatus and electro-medical apparatus. On many of the railways blood transfusion services were newly started, teams were formed and training was completed. Blood transfusion circulars and equipment were supplied to certain hospitals. Vitamin products were supplied free of cost to indigent railway patients on certain Railways. On almost all railways special attention was paid to the examination of school children.

During 1948-9, the rules for medical attendance and treatment for railway employees were liberalized to an appreciable extent. These concessions were extended to the families of railway servants on the same scale and conditions. Provision was made in the rules for free treatment of maternity cases, including pre-natal and post-natal treatment, in a number of recognized non-railway hospitals.

CHAPTER VIII

AMENITIES FOR PASSENGERS

135. General.—The provision of amenities for the comfort of passengers continued to receive the attention of railways. Certain amenities provided during the year on the principal railways are referred to in the following paragraphs.

136. New Class III Carriages.—190 new Class III carriages conforming to the approved standard design laid down in 1939 were constructed and placed in service as against 105 during the previous year.

137. Booking Offices and out-agencies.—Additional booking facilities for the greater convenience of passengers were provided at different stations as indicated below.

Bombay, Baroda and Central India Railway.—City booking offices were opened at Baroda City and Bombay (Mohamedali Road) during the year. Out-agencies were also opened at Jawhar, Dharampur, and Shirpur.

East Indian Railway.—Additional booking windows were opened at nine principal stations. Arrangements were also made for keeping booking offices at stations open for continuous booking at Bhagalpur, Dhanbad and Baidynathdham. The city booking office at Patna was opened to ease pressure at Patna Junction. It has also been decided to reopen the out-agencies at Lodi Sikandarabad, Dankaur, Jahangirabad, Khagaria, and Dumka.

Eastern Punjab Railway.—With a view to providing additional booking facilities for the public, the existing booking agencies at Meerut City, Saharanpur and Delhi (Quazi Hauz) have been allowed to deal with foreign traffic and the working hours at Connaught Place, New Delhi, have also been extended. To prevent overcrowding at passenger booking windows, arrangements were made to open booking offices at road side stations at least one hour before the arrival of each train instead of one half of an hour as heretofore. Special booking windows were opened at Delhi for the convenience of passengers travelling by all classes for out-of-the-way places and ladies travelling in Class III.

Madras and Southern Mahratta Railway.—A new booking office was opened at Belgaum during the year for booking passengers only. Special booking windows were arranged at certain stations for the issue of Class III tickets to passengers travelling beyond 300 miles.

Oudh Tirhut Railway.—Booking offices were opened at Muzaffarpur and Patna for booking passengers only. In order to serve important markets in Kumaon hills, where the medium of transport mostly consists of motor vehicles, the out-agencies at Almora, Nainital, Rani Khet, and Bhowali remained open for goods and parcels traffic. The Nainital out-agency was transferred from Kumaon Motor Owners Union Ltd. to the U. P. Government Roadways.

South Indian Railway.—Five new out-agencies were opened during the year. The festival booking office at Madura Junction was converted into a regular booking office to relieve the congestion in the existing booking office.

138. Waiting rooms and waiting halls.—During the year waiting rooms and waiting halls were added and improvements effected to the existing station accommodation for passengers at a number of stations.

Bengal Nagpur Railway.—Separate waiting accommodation for Class III lady passengers has been provided at Soro and Itwari, and works for new waiting halls at Vizagapatam, Bamra, Sini, Contai Road, Bagbahara, Haridaspur, under construction, will shortly be available for the use of passengers.

East Indian Railway.—One Class III waiting room was provided at Bhabua Road. Improvements were effected in waiting rooms and waiting halls at Allahabad, Mirzapur, Bindhachal, Calcutta (Main Station), Faizabad and Gaya.

Great Indian Peninsula Railway.—The Class I waiting room was reopened at Majhgawan on 1 April 1948. At Dadar, mosaic flooring was provided in the ladies waiting room. In the Class III waiting hall at Poona, arrangements for bathing and washing were improved.

Madras and Southern Mahratta Railway.—A new Class III waiting hall for ladies was provided during the year at Nuzvid. Twenty-four additional waiting rooms were provided at six stations on the broad gauge and one on the metre gauge.

Oudh Tirhut Railway.—Separate waiting rooms for Class II ladies and gents were opened at Bahraich and Mankapur during 1948-9.

South Indian Railway.—At Coonoor, flush-out arrangements, extra water closet, ladies dressing room and a commodious ladies waiting room were provided in the waiting rooms for Class I and Class II passengers. Improvements were also carried out in the ladies and gents retiring and waiting rooms at Tirupattur, Polur, Villupuram, Ootacamund, Salem Junction and Egmore (Madras).

139. Additional platforms and sheds.—A number of works on improvements to, or extension of, existing platforms, and provision of additional facilities were either completed or commenced during the year. They are briefly referred to in the following paragraphs.

On the Bombay, Baroda and Central India Railway, work was taken in hand on extension of platforms at Surat, Broach, Bulsar, Anklesvar, Navsari, Virar, Kharsalia, Dohad, Shamgarh, Gangapur City, Bharatpur, Kotah, Lakheri, Bayana, Sawai Madhopur, Shri Chhatrapur and Bijalpur stations. Extension of waiting sheds was also taken up at Shri Mahabirji, Bayana, and Bhawani Mandi stations on the same railway.

On the East Indian Railway, a second rail level platform was provided at Goshainganj. The Up and Down platforms were raised to high level at Khusrupur, and passenger platforms were lengthened at Mirzapur, Bindhachal, Firozabad, Naini and Bindki Road. At Bhadohi Habibwala, Fazalpur and Chandok, rail level platforms were provided. Raised platforms were provided at Japla, Garhwa Road, Saiyed Raja, Kudra and Khusrupur.

On the Great Indian Peninsula Railway, covered platforms above rail level were provided at Sirhi Itara, Kathara, Sambhua, Pathara, Ghatampur, Hamirpur Road, Yamuna South Bank, Vithalvadi, Pagara, and Paricha stations. Side coverings for platforms were provided at King's Circle, and platforms Nos. 3 and 4 at Kalyan were topped with cement concrete.

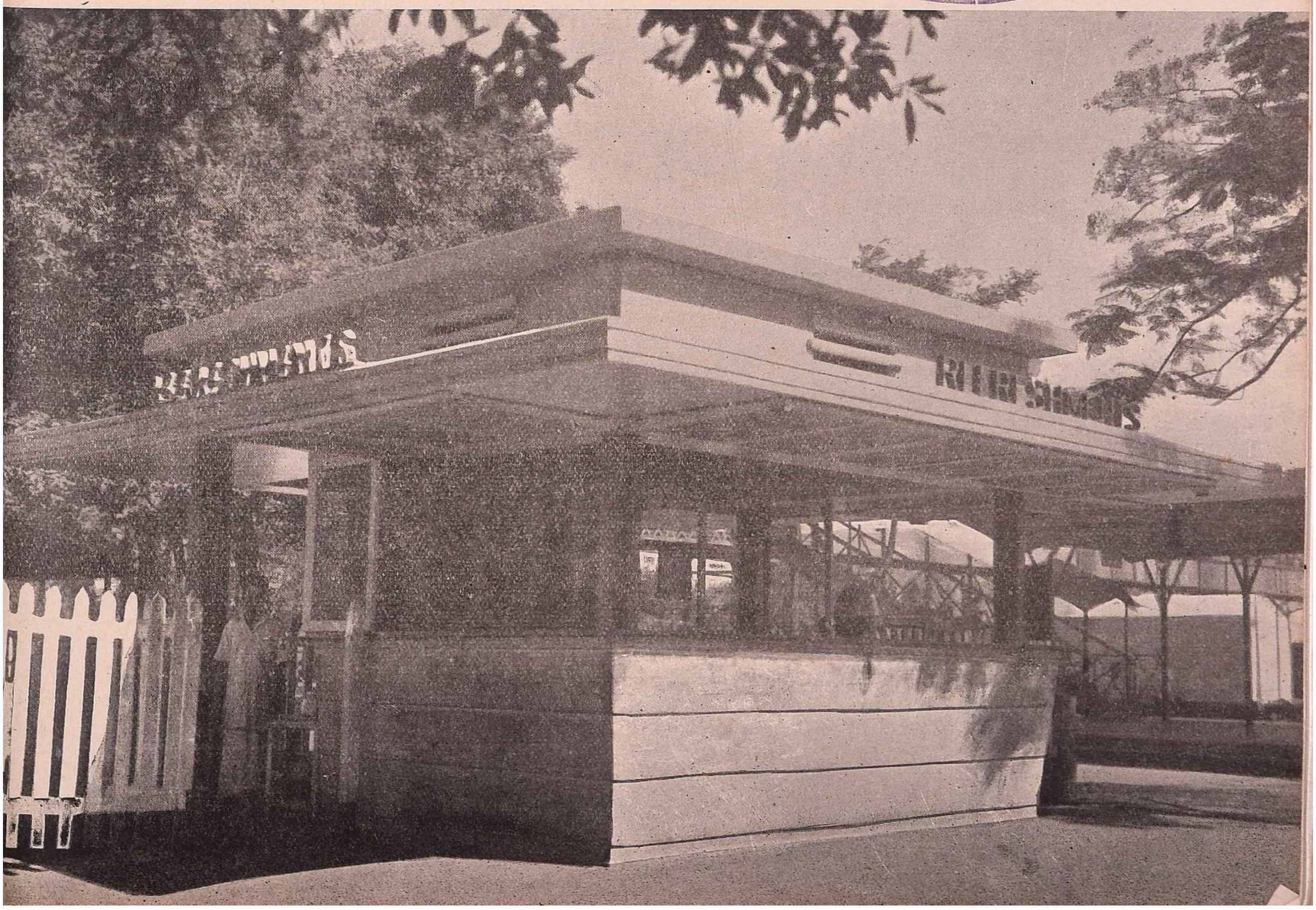
The level of the platforms at six stations on the broad gauge section of the South Indian Railway was raised to 1′-6″ above rail level. On the metre gauge, the platforms at Valadi and Uttamarkovil (train halt) were widened, and the platform at Tirumayiladi (train halt) was extended. Platforms at stations in the Madras Suburban area, Villupuram, Madura, Mettupalayam and Ootacamund were provided with concrete floors. Shellcrete flooring was provided in the second island platform at Coimbatore Junction in place of the old gravel flooring.

140. Reorganization of catering arrangements.—During the year, decision was taken to replace the former system of maintaining separate refreshment rooms on European and Indian styles, by vegetarian and non-vegetarian refreshment rooms. At major stations and junctions, it was decided to retain in addition restaurants on the Western style, suited to the requirements of overseas tourists.

Another important decision was the prohibition of the sale of alcoholic drinks on railway premises and on dining cars.

MADRAS EGMORE STATION AS SEEN FROM OUTSIDE SHOWING THE FLUORESCENT LAMPS, OVERBRIDGE, ETC.

REINFORCED CONCRETE PLATFORM REFRESHMENT STALL AT ARKONAM, M. & S. M. RAILWAY (COST RS. 2,600.)



The food situation not having shown any material improvement, austerity meals continued to be served, but a strict check was maintained over the quality of food supplied and the cleanliness of preparations.

During the year, and, more particularly, towards its close, a number of suitable contractors from among displaced persons were awarded contracts for vending and catering. All possible avenues were being explored with the object of rehabilitating as large a number as possible of these people.

141. Supply of drinking water.—Arrangements for providing adequate supplies of drinking water for passengers continued to receive the attention of railways during the year. A new experiment of stationing about twenty watermen at carefully selected stopping stations along all important routes to permit supply of drinking water to passengers in all compartments is being tried during the ensuing summer. If this proves a success, it should be possible to reduce the number of watermen scattered all over the line.

142. Cleanliness of coaching stock and prevention of thefts of fittings.—As in the previous year, the question of cleanliness of coaching stock has continued to receive the active attention of Railways during the current year. The system of Resident Conductors was extended to all the Indian Government Railways. As the result of various steps taken, an improvement in the general cleanliness of stock has been effected. There has been a steady, although small, reduction in the theft of fittings from coaching stock.

143. Steps taken to alleviate overcrowding in trains.—Several measures were taken during the year to reduce overcrowding in trains. These included bringing new coaching stock into service, and introducing additional trains of which a certain number was exclusively devoted to Class III passengers only. Passenger train services were strengthened by attaching extra carriages where available and within the permissible hauling capacity of the engine, and generally striving to attain the best possible utilization of all available coaching stock. In addition, the drive against ticketless travel was intensified. Social guides appointed to assist Class III passengers also helped towards reducing overcrowding by directing passengers from the more congested carriages to the less congested.

CHAPTER IX

ACCIDENTS

144. Major accidents.—The details of five major accidents, which occurred during the year, are referred to here.

On 30 April 1948, while No. 171 Up Goods was running between Sultangunge and Gangania stations on the Sahibganj Loop of the East Indian Railway, No. 314 Down Workmen's train also entered the same block section from the opposite direction and collided head-on with it. The two leading coaches on 314 Down were smashed and the engines of both the trains suffered considerable damage. Eight persons were killed and 17 injured. The approximate cost of damage to rolling-stock was Rs. 60,000.

On 15 May 1948, No. 9 Up Dehra Dun Express, running between Chhota Ambona and Pradhankanta stations on the Grand Chord section of the East Indian Railway, was derailed. The engine and four leading coaches capsized and the fifth and the sixth coaches were also derailed. Thirty-three persons were killed and 96 injured. The approximate cost of damage to rolling-stock was Rs. 53,800. The accident was caused by the track having been tampered with by some unknown persons.

On 14 September 1948, No. 8 Down Nainital Express was running between Puranpur and Shahgarh stations on the Lucknow-Bareilly section of the Oudh Tirhut Railway, and No. 49 Up Passenger also entered the same block section from the opposite direction and collided head-on with it. The engines of both the trains were badly damaged. The three leading coaches on 8 Down and two leading coaches on 49 Up were derailed and damaged. Twenty-six persons were killed and 35 injured. The approximate cost of damage to rolling-stock and permanent way was Rs. 87,300.

On 15 November 1948, while No. 7 Up Passenger was running between Furkating and Kamarbandha Ali stations on the Lumding-Mariani (Main Line) section of the Assam Railway, its engine and four leading coaches were derailed. The engine capsized and the first, third and the fourth coaches were wrecked. Seventeen persons were killed and 40 injured. The approximate cost of damage to rolling-stock and permanent way was Rs. 52,000.

On 13 March 1949, a Down light engine was running between Pipraich and Bodarwar stations on the Savan-Gorakhpur Loop of the Oudh Tirhut Railway, and No. 63 Up Passenger also entered the same block section from the opposite direction and collided head-on with it. The front portions of both the engines were damaged and the two leading coaches of 63 Up derailed and damaged. Nine persons were killed and 44 injured. The approximate cost of damage to rolling-stock and permanent way was Rs. 41,000.

145. Review of Accident Statistics.—The number of passengers, railway servants and other persons killed and injured in accidents on Indian Railways, exclusive of casualties in railway workshops during 1948-9 as compared with the previous year may be seen from the accompanying table.

NUMBER OF PERSONS INJURED IN ACCIDENTS ON INDIAN RAILWAYS DURING 1947-8 AND 1948-9

Classification	Killed		Injured	
	1947-8*	**1948-9***	1947-8*	**1948-9***
A. *Passengers*				
(*a*) In accidents to trains, rolling-stock, permanent way, etc.	299	**88**	763	**363**
(*b*) In accidents caused by movement of trains and railway vehicles exclusive of train accidents.	607	**621**	2,979	**3,113**
(*c*) In accidents on railway premises in which the movement of trains, vehicles, etc., was not concerned.	2	**1**	27	**14**
TOTAL .	908	**710**	3,769	**3,490**
B. *Railway servants*				
(*a*) In accidents to trains, rolling-stock, permanent way, etc.	21	**27**	195	**252**
(*b*) In accidents caused by movement of trains and railway vehicles exclusive of train accidents.	171	**212**	6,274	**5,563**
(*c*) In accidents on railway premises in which the movement of trains, vehicles, etc., was not concerned.	21	**28**	15,602	**15,008**
TOTAL .	213	**267**	22,071	**20,823**
C. *Other than passengers and railway servants*				
(*a*) In accidents to trains, rolling-stock, permanent way, etc.	39	**102**	111	**161**
(*b*) In accidents caused by movement of trains and railway vehicles exclusive of train accidents.	2,958	**3,553**	1,463	**1,677**
(*c*) In accidents on railway premises in which the movement of trains, vehicles, etc., was not concerned.	15	**28**	93	**54**
TOTAL .	3,012	**3,683**	1,667	**1,892**
GRAND TOTAL .	4,133	**4,660**	27,507	**26,205**

* *See* 'Note' at the end of this Chapter.

Of the total of 4,660 persons killed 3,683 or 79 per cent were other than passengers and railway servants and, of this number, 2,970 were trespassers and 367 were reported to be suicides. Furthermore, 57 persons were killed on railway premises otherwise than during the movement of trains, vehicles, etc.

As compared with the previous year, the number of passengers injured in accidents caused by movement of trains and railway vehicles exclusive of train accidents increased by 134 due mainly to an increase in the number of passengers falling or jumping out of carriages during the running of trains. The number of railway servants injured in accidents to trains, rolling-stock and permanent way, etc., and killed in accidents caused by movement of trains and railway vehicles exclusive of train accidents increased as compared with the previous year by 57 and 41 respectively. These increases are made up of slight increases under different classes of accidents. The number of persons other than passengers and railway servants killed and injured in accidents caused by movement of trains and railway vehicles other than train accidents increased by 595 and 214 respectively, on account of an increase in the number trespassing on the line.

The following statement shows the number of passengers killed and injured in train accidents only, *i.e.*, collisions, derailments, etc., during the last five years as compared with the number carried.

NUMBER OF PASSENGERS KILLED AND INJURED IN TRAIN ACCIDENTS, 1944-5 TO 1948-9

Year	Number of passengers carried (in millions)†	Killed		Injured	
		Number‡	Per million passengers carried	Number‡	Per million passengers carried
1944-5	971	34	0·04	132	0·14
1945-6	1,093	89	0·08	253	0·23
1946-7	1,139	93	0·08	340	0·29
1947-8*	1,044	298	0·29	721	0·69
1948-9*	**1,180**	**55**	**0·05**	**260**	**0·22**

* *See* 'Note' at the end of this Chapter.
† Represents total number carried on all railways.
‡ Excludes train wrecking and attempted train wrecking.

On Class I Railways, the number of railway servants killed and injured in accidents from the movement of trains, railway vehicles, etc., exclusive of train accidents, increased by 44 and 2,287 respectively. The main causes for these accidents are analysed in the following table.

CLASSIFICATION OF ACCIDENTS TO RAILWAY SERVANTS

Cause	Killed		Injured	
	1947-8	**1948-9**	1947-8	**1948-9**
(1) Misadventure or accidental . . .	148	**176**	5,924	**5,093**
(2) Want of caution or misconduct on the part of the injured person.	14	**29**	248	**332**
(3) Want of caution or breach of rules, etc., on the part of servants other than the persons injured.	1	**2**	45	**75**
(4) Defective apparatus, appliance, etc., or want of sufficient appliances, safeguards, etc.	..	..	..	**4**
TOTAL .	163	**207**	6,217	**5,504**

In the following statement are analysed the accidents which occurred during the last two years grouped under certain principal heads. A statement showing the accidents in greater detail for each railway will be found in Appendix D of Volume II of this Report.

ACCIDENTS DURING 1947-8 AND 1948-9 CLASSIFIED UNDER PRINCIPAL HEADS

	1947-8*	**1948-9***
(1) Derailments not involving passenger trains . . .	7,959	**8,177**
(2) Accidents due to failure of engines owing to faulty material, workmanship and operation arising from the working of the running staff	3,314	**4,672**
(3) Running over cattle	4,292	**4,509**
(4) Accidents due to failure of couplings and drawgear .	2,122	**2,296**
(5) Accidents due to failure of engines owing to faulty material and workmanship in the Mechanical Department	2,056	**1,646**
(6) Fires in trains at stations or bridges . . .	374	**529**

ACCIDENTS DURING 1947-8 AND 1948-9 CLASSIFIED UNDER PRINCIPAL HEADS —*contd.*

	1947-8*	1948-9*
(7) Accidents due to other rolling-stock failures . .	396	322
(8) Derailments of passenger trains	308	285
(9) Collision involving goods trains or goods vehicles . .	122	253
(10) Accidents due to failure of axles	267	222
(11) Attempted train wrecking	161	169
(12) Broken rails	104	162
(13) Running over obstructions (other than those included under 'Train wrecking', 'Attempted train wrecking' and 'Trains running into road traffic at level crossings')	108	155
(14) Trains running into road traffic at level crossings .	192	145
(15) Landslips	82	126
(16) Train wrecking	42	31
(17) Flooding of permanent way	49	110
(18) Accidents due to failure of tyres and wheels . .	62	89
(19) Passenger trains running in the wrong direction through points but not derailed	43	72
(20) Collisions between light engines	75	58
(21) Accidents due to failure of brake apparatus . .	45	51
(22) Collisions involving passenger trains	48	34
(23) Failure of bridges, tunnels, etc.	4	...
(24) Miscellaneous	412	535
TOTAL .	22,637	24,648

* *See* 'Note' at the end of this Chapter.

The total number of accidents shows an increase of 2,011 or 8·2 per cent as compared with the previous year, against an increase in the total train miles of 6·4 per cent.

Derailments not involving passenger trains still account for the largest number of accidents, *i.e.*, 33 per cent of the total. The others in inverse order of importance are stated below :—

	Per cent
Accidents due to failure of engines owing to faulty material, workmanship and operation arising from the working of the running staff	19
Running over cattle	18
Accidents due to failure of couplings and drawgear	9
Accidents due to failure of engines owing to faulty material and workmanship in the Mechanical Department	7
Fires in trains at stations or bridges	2
Accidents due to other rolling-stock failures	1
Derailments of passenger trains	1
Collision involving goods trains or goods vehicles . . .	1
Accidents due to failure of axles	1

Accidents in railway workshops accounted for the death of 9 and injuries to 17,331 railway servants, or a decrease of 7 in the former and an increase of 2,714 in the latter as compared with the previous year.

NOTE.—Figures for 1946-7 and for previous years, where given, are *inclusive* of the Bengal Assam and North Western Railways. Figures for 1947-8 are *exclusive* of the Bengal Assam and North Western Railways but *inclusive* of Eastern Punjab and Assam Railways for the period 15 August 1947 to 31 March 1948 only, while those for 1948-9 are *inclusive* of Eastern Punjab and Assam Railways for the whole year.

APPENDIX A

Resolution regarding the separation of Railway from General Finances, adopted by the Legislative Assembly on 20 September 1924 and the Convention Resolution of 1943.

'This Assembly recommends to the Governor General in Council that in order to relieve the general budget from the violent fluctuations caused by the incorporation therein of the railway estimates and to enable railways to carry out a continuous railway policy based on the necessity of making a definite return to general revenues on the money expended by the State on Railways.

(1) The railway finances shall be separated from the general finances of the country and the general revenues shall receive a definite annual contribution from railways which shall be the first charge on the net receipts of railways.

(2) The contribution shall be based on the capital at charge and working results of commercial lines, and shall be a sum equal to one per cent on the capital at charge of commercial lines (excluding capital contributed by companies and Indian States) at the end of the penultimate financial year *plus* one-fifth of any surplus profits remaining after payment of this fixed return, subject to the condition that, if in any year railway revenues are insufficient to provide the percentage of one per cent on the capital at charge surplus profits in the next or subsequent years will not be deemed to have accrued for purposes of division until such deficiency has been made good.

The interest on the capitl at charge of, and the loss in working, strategic lines shall be borne by general revenues and shall consequently be deducted from the contribution so calculated in order to arrive at the net amount payable from railway to general revenues each year.

(3) Any surplus remaining after this payment to general revenues shall be transferred to a railway reserve; provided that if the amount available for transfer to the railway reserve exceeds in any year three crores of rupees only two-thirds of the excess over three crores shall be transferred to the railway reserve and the remaining one-third shall accrue to general revenues.

(4) The railway reserve shall be used to secure the payment of the annual contribution to general revenues; to provide; if necessary, for arrears of depreciation and for writing down and writing off capital; and to strengthen the financial position of railways in order that the services rendered to the public may be improved and rates may be reduced.

(5) The railway administration shall be entitled, subject to such conditions as may be prescribed by the Government of India, to borrow temporarily from the capital or from the reserves for the purpose of meeting expenditure for which there is no provision or insufficient provision in the revenue budget subject to the obligation to make repayment of such borrowings out of the revenue budgets of subsequent years.

(6) A Standing Finance Committee for Railways shall be constituted consisting of one nominated official member of the Legislative Assembly who should be chairman and eleven members elected by the Legislative Assembly from their body. The members of the Standing Finance Committee for Railways shall be *ex-officio* members of the Central Advisory Council, which shall consist, in addition, of not more than one further nominated official member, six non-official members selected from a panel of eight elected by the Council of State from their body and six non-official members selected from a panel of eight elected by the Legislative Assembly from their body.

The Railway Department shall place the estimate of railway expenditure before the Standing Finance Committee for Railways on some date prior to the date for the discussion of the demand for grants for railways and shall, as far as possible, instead of the expenditure programme revenue show the expenditure under a depreciation fund created as per the new rules for charge to capital and revenue.

(7) The railway budget shall be presented to the Legislative Assembly if possible in advance of the general budget and separate days shall be allotted for its discussion, and the Member in charge of Railways shall then make a general statement on railway accounts and working. The expenditure proposed in the railway budget, including expenditure from the depreciation fund and the railway reserve, shall be placed before the Legislative Assembly in the form of demands for grants. The form the budget shall take after

separation, the detail it shall give and the number of demands for grants into which the total vote shall be divided shall be considered by the Railway Board in consultation with the proposed Standing Finance Committee for Railways with a view to the introduction of improvements in time for the next budget, if possible.

(8) These arrangements shall be subjected to periodic revision but shall be provisionally tried for at least three years.

(9) In view of the fact that the Assembly adheres to the resolution passed in February 1923, in favour of State management of Indian Railways, these arrangements shall hold good only so long as the East Indian Railway and the Great Indian Peninsula Railway and existing State-managed railways remain under State management. But if in spite of the Assembly's resolution above referred to Government should enter on any negotiations for the transfer of any of the above railways to Company management such negotiations shall not be concluded until facilities have been given for a discussion of the whole matter in the Assembly. If any contract for the transfer of any of the above railway to Company management is concluded against the advice of the Assembly, the Assembly will be at liberty to terminate the arrangements in this Resolution.

Apart from the above convention this Assembly further recommends—

(i) that the railway services should be rapidly Indianized, and further that Indians should be appointed as Members of the Railway Board as early as possible, and

(ii) that the purchases of stores for the State Railways should be undertaken through the organization of the Stores Purchase Department of the Government of India.'

Convention Resolution of 1943.

The Legislative Assembly on 2 March 1943 passed the following resolution:—

'Whereas it has been found that the Convention, which was adopted under the Assembly Resolution, dated 20th September 1924, and which was intended to relieve the General Budget from violent fluctuations caused by the incorporation therein of the railway estimates and to enable railways to carry on a continuous railway policy based on the necessity of making a definite return to general revenues on the money expended by the State, has not achieved these objects, this Assembly recommends to the Governor General in Council, that:

(i) for the year 1942-3, a sum of Rs. 2,35,32 thousand shall be paid to general revenues over and above the current and arrear contribution due under the Convention,

(ii) from the 1st April 1943, so much of the Convention as provides for the contribution and allocation of surpluses to general revenues shall cease to be in force,

(iii) for the year 1943-4, the surplus on commercial lines shall be utilized to repay any outstanding loan from the depreciation fund and thereafter be divided 25 per cent to the railway reserve and 75 per cent to general revenues, the loss, if any, on strategic lines being recovered from General Revenues, and

(iv) for subsequent years and until a new convention is adopted by the Assembly, the allocation of the surplus on commercial lines between the railway reserve and general revenues shall be decided each year on consideration of the needs of the railways and general revenues, the loss, if any, on strategic lines being recovered from general revenues.'

APPENDIX B

MINISTRY OF RAILWAYS

Officers of the Ministry of Railways (Railway Board) and attached offices on 31 March 1949

The Hon'ble Shri N. Gopalaswami Ayyangar, Minister for Transport and Railways
The Hon'ble Shri K. Santhanam, Minister of State for Transport and Railways

---

Railway Board

Shri K. C. Bakhle	Chief Commissioner of Railways.
Shri P. M. Joseph	Financial Commissioner of Railways.
Dr. H. J. Nichols, D.Sc. (Lond.)	Member, Engineering.
Shri F. C. Badhwar	Member, Staff.
Shri V. P. Bhandarkar	Member, Transportation.
Shri K. P. Mushran	Director, Establishment.
Shri A. A. Brown	Director, Traffic.
Shri P. C. Khanna	Director, Civil Engineering.
Shri P. Morris	Director, Mechanical Engineering.
Shri C. T. Venugopal	Director, Finance (Budget).
Shri K. Sadagopan	Director, Finance (Expenditure).
Shri S. S. Ramasubban	Secretary.
Shri G. Rama Rau	Deputy Secretary.
Shri N. L. Das Gupta	Assistant Secretary.
Shri M. E. Bartley	Joint Director, Establishment (Temporary).
Shri D. C. Baijal	Joint Director, Civil Engineering (Temporary).
Shri G. Borkar	Joint Director, Public Relations (Temporary).
Shri S. K. Guha	Joint Director, Traffic (General) (Temporary).
Shri M. A. R. Sequeira	Joint Director, Finance (Temporary).
Shri Y. P. Kulkarni	Joint Director, Adjudication (Temporary).
Shri K. L. Ghei	Deputy Director, Finance (Budget).
Shri K. S. Bhandari	Deputy Director, Finance (Establishment)
Shri P. Bhattacharji	Deputy Director, Mechanical I.
Shri T. Venkatasubramania Ayyar	Deputy Director, Civil Engineering (Temporary).
Shri L. N. Mathur	Deputy Director, Tele-Communications (Temporary).
Shri M. K. Krishnamachari	Deputy Director, Statistics (Temporary).
Shri P. Chakrabarty	Deputy Director, Mechanical, II (Temporary).
Shri Rajendra Dev	Deputy Director, Traffic (Transportation) (Temporary).
Shri B. R. Nanda	Deputy Director, Public Relations.
Shri P. C. Kapur	Deputy Director, Mechanical III (Temporary).
Shri P. K. Madhava Menon	Deputy Director, Establishment.
Shri K. S. Anantapadmanabhan	Deputy Director, Finance (Expenditure) (Temporary).
Shri Surjan Singh	Assistant Director, Traffic (Commercial) (Temporary).
Shri A. Hildreth	Assistant Director, Stores (Temporary).
Shri Haveli Ram	Assistant Director, Finance (Accounts) (Temporary).
Shri Tek Chand	Assistant Director, Traffic (Temporary).
Shri M. K. S. Aiyar	Assistant Director, Establishment, II (Temporary).
Shri S. L. Jaini	Assistant Director, Establishment, I (Temporary).

Attached Officers

Prof. L. A. Natesan	Economic Adviser (Temporary).
Shri P. L. Roy	Officer on Special Duty (Railway Territorial Units) (Temporary).
Shri Ranjit Singh	Officer on Special Duty (Tour) (Temporary).
Shri D. Sandilya	Officer on Special Duty (Grainshops) (Temporary).
Shri B. B. Mathur	Officer on Special Duty (Temporary).
Shri M. N. Chakravarti . . .	Officer on Special Duty (Temporary).

Central Standards Office for Railways

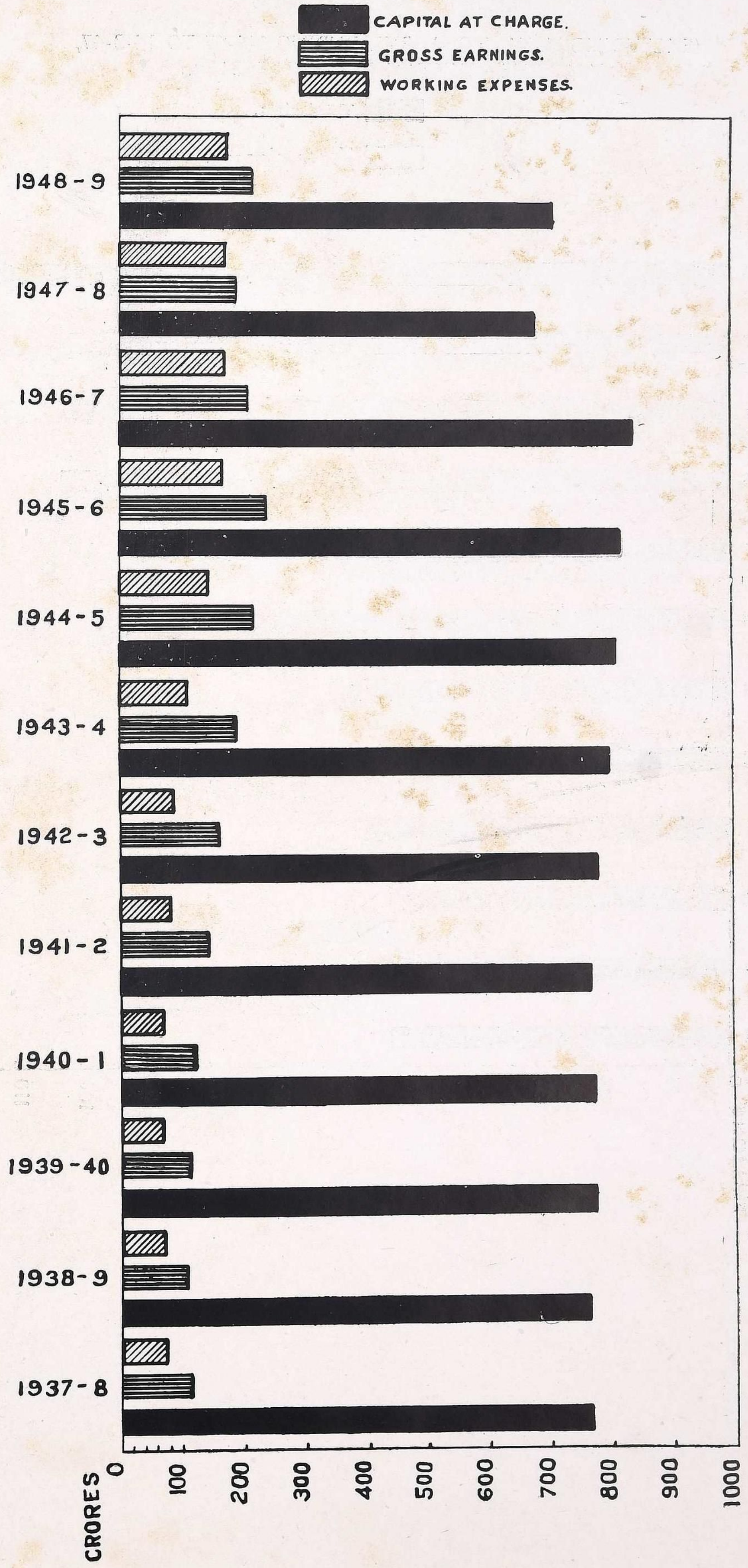
Shri B. S. Sindhu	Deputy Chief Controller of Standardization (Mechanical).
Shri K. F. Antia	Deputy Chief Controller of Standardization (Civil).
Shri A. K. Gupta	Assistant Chief Controller of Standardization (Civil).
Shri S. R. Woodmore	Assistant Chief Controller of Standardization (Specification and Research).
Shri T. E. St. Q. Stewart . . .	Assistant Chief Controller of Standardization (Designs).
Shri A. Freitas	Assistant Chief Controller of Standardization (Loco. and Carriage).
Shri R. H. G. da Cunha da Costa .	Research Officer (Mechanical).
Shri H. H. Banerjee	Research Officer (Civil), II.
Shri V. Venkataramayya . . .	Research Officer (Civil), I.
Shri V. Kamlani	Dynamometer Car Officer.
Shri R. G. Bhatawadekar . . .	Research Officer (Chemical and Metallurgical).
Shri W. H. Anderson	Inspecting Officer for Railways (Tatanagar).
Shri M. S. Murti	Research Officer (Electrical).
Shri J. T. Wheatley	Officer on Special Duty, Madras.

APPENDIX C

GRAPHS

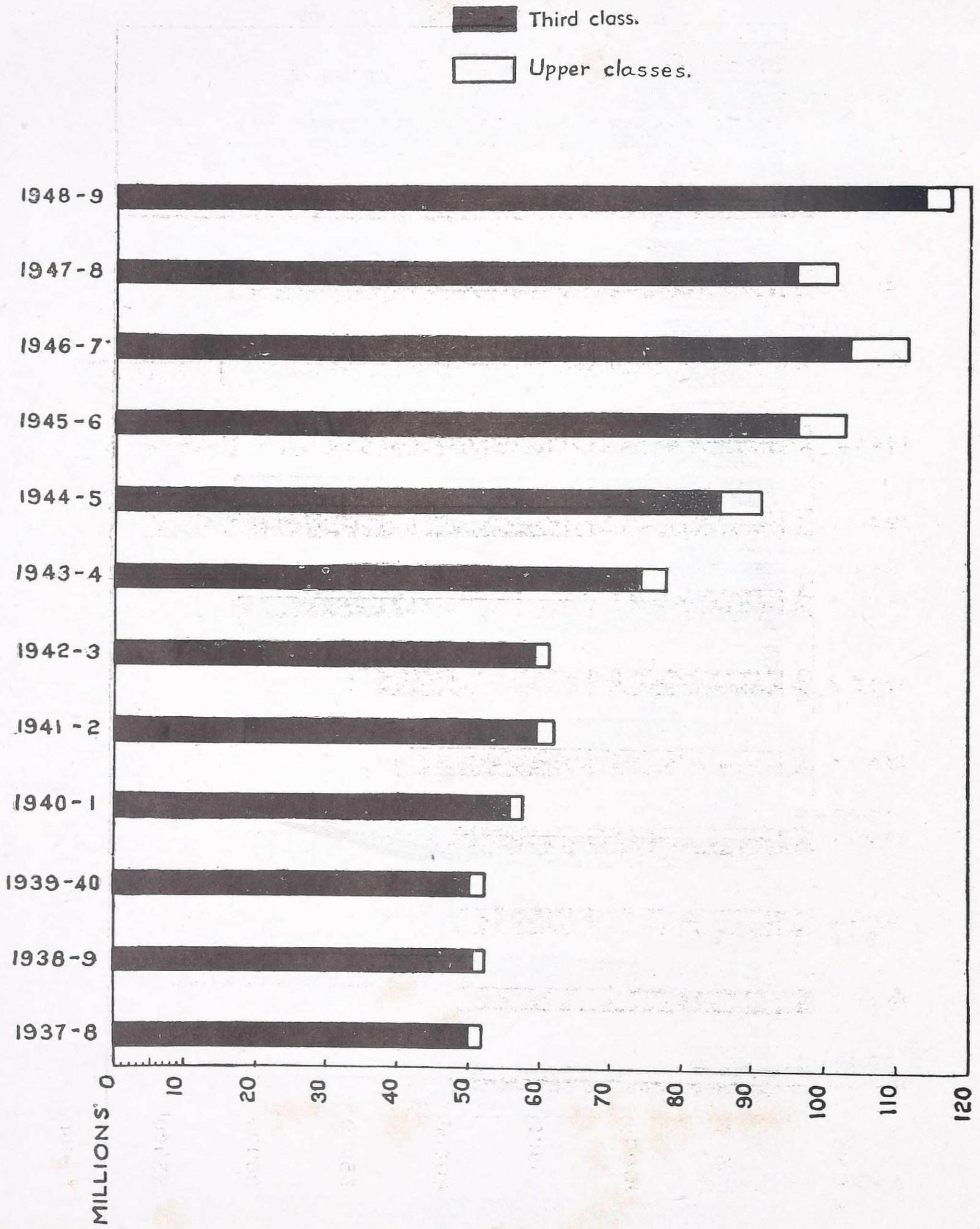
TOTAL CAPITAL AT CHARGE, TOTAL GROSS EARNINGS AND TOTAL WORKING EXPENSES OF INDIAN GOVERNMENT RAILWAY LINES

(EXCLUDING N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)



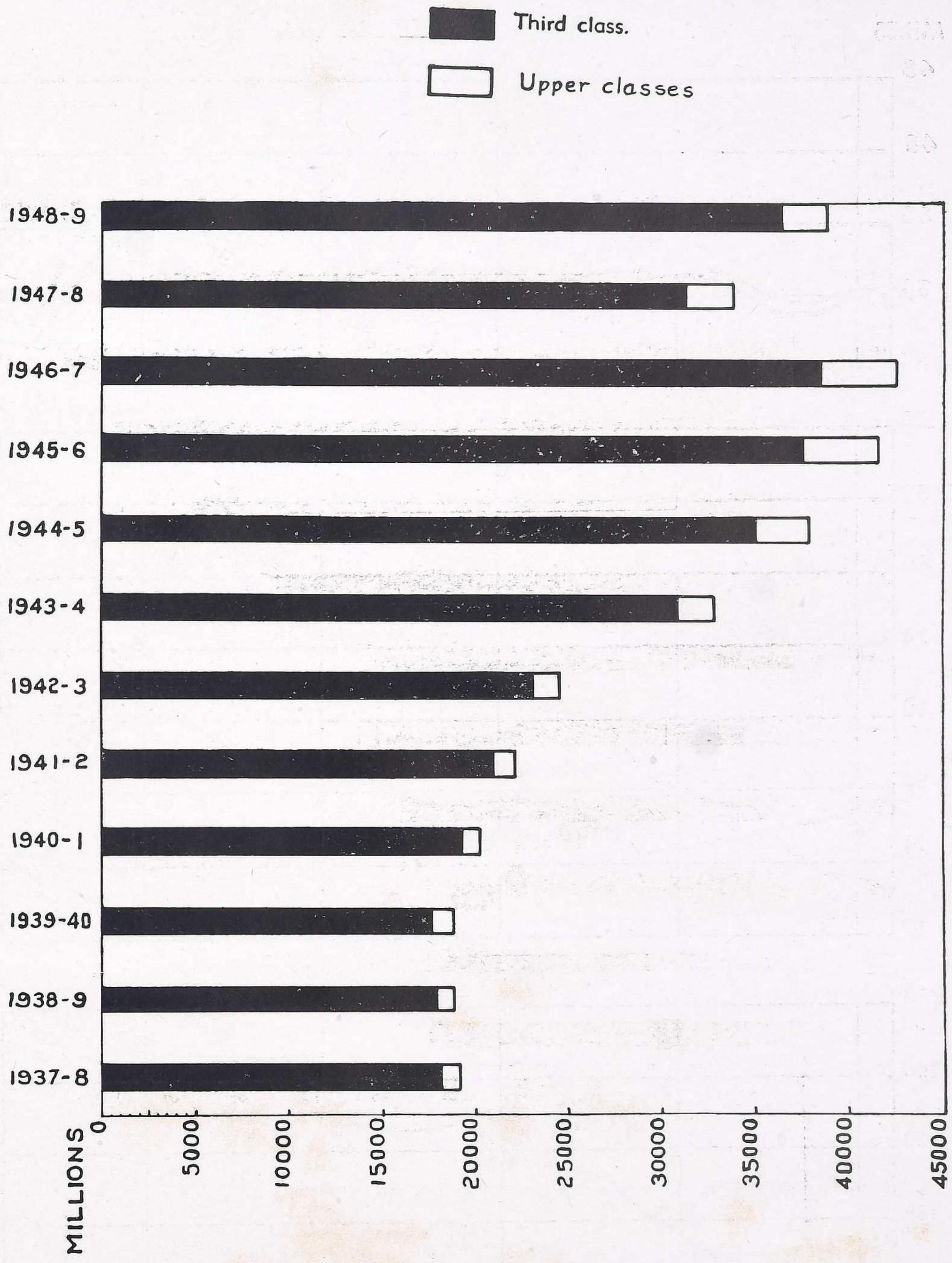
NUMBER OF PASSENGERS CARRIED
INDIAN RAILWAYS

(EXCLUDING N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)



NUMBER OF PASSENGER MILES
INDIAN RAILWAYS

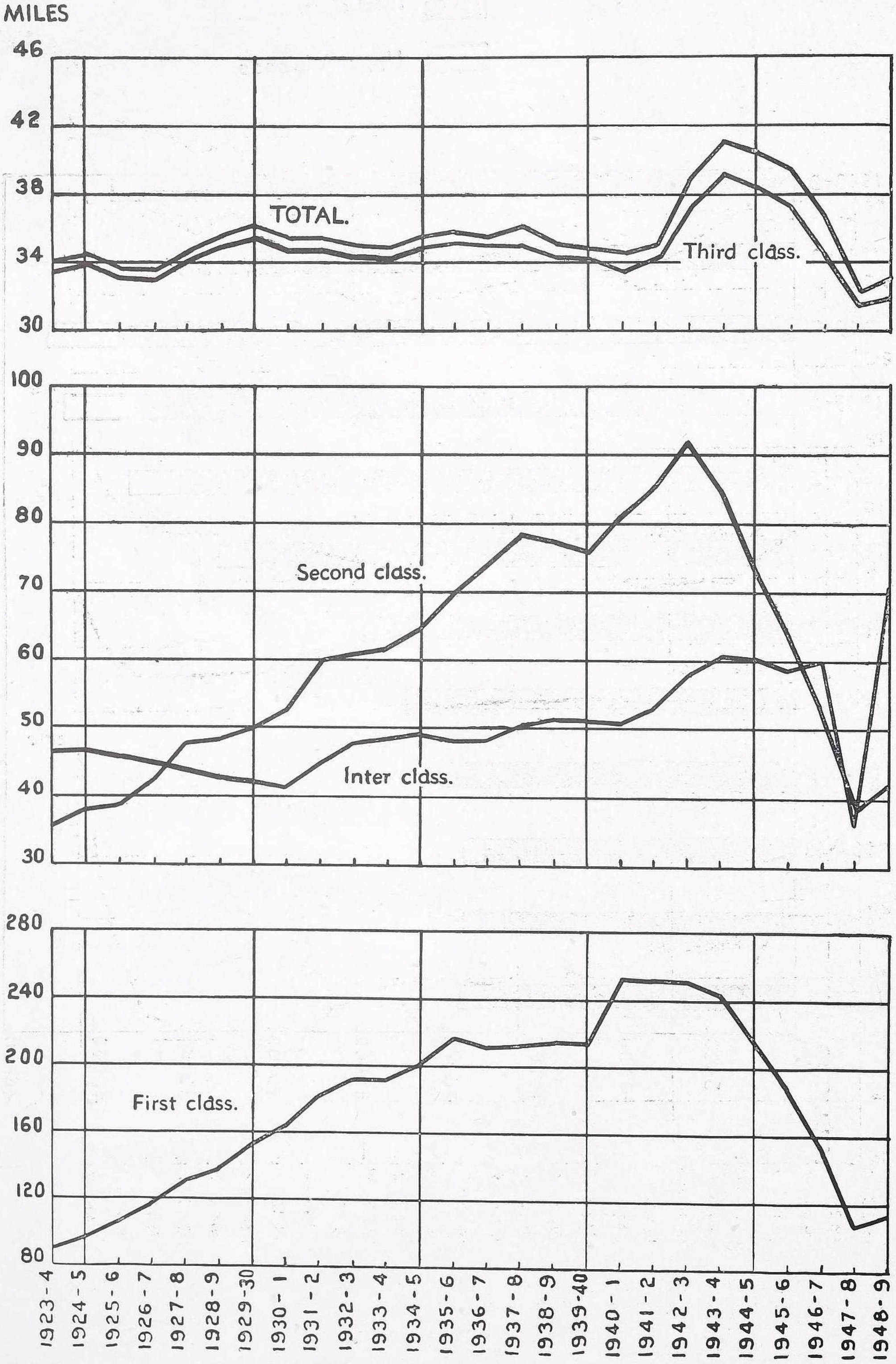
(EXCLUDING N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)



AVERAGE MILES A PASSENGER WAS CARRIED

ALL INDIAN RAILWAYS

(EXCLUDING BURMA RAILWAYS DURING 1923-4 TO 1936-7, N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)



NOTE:—

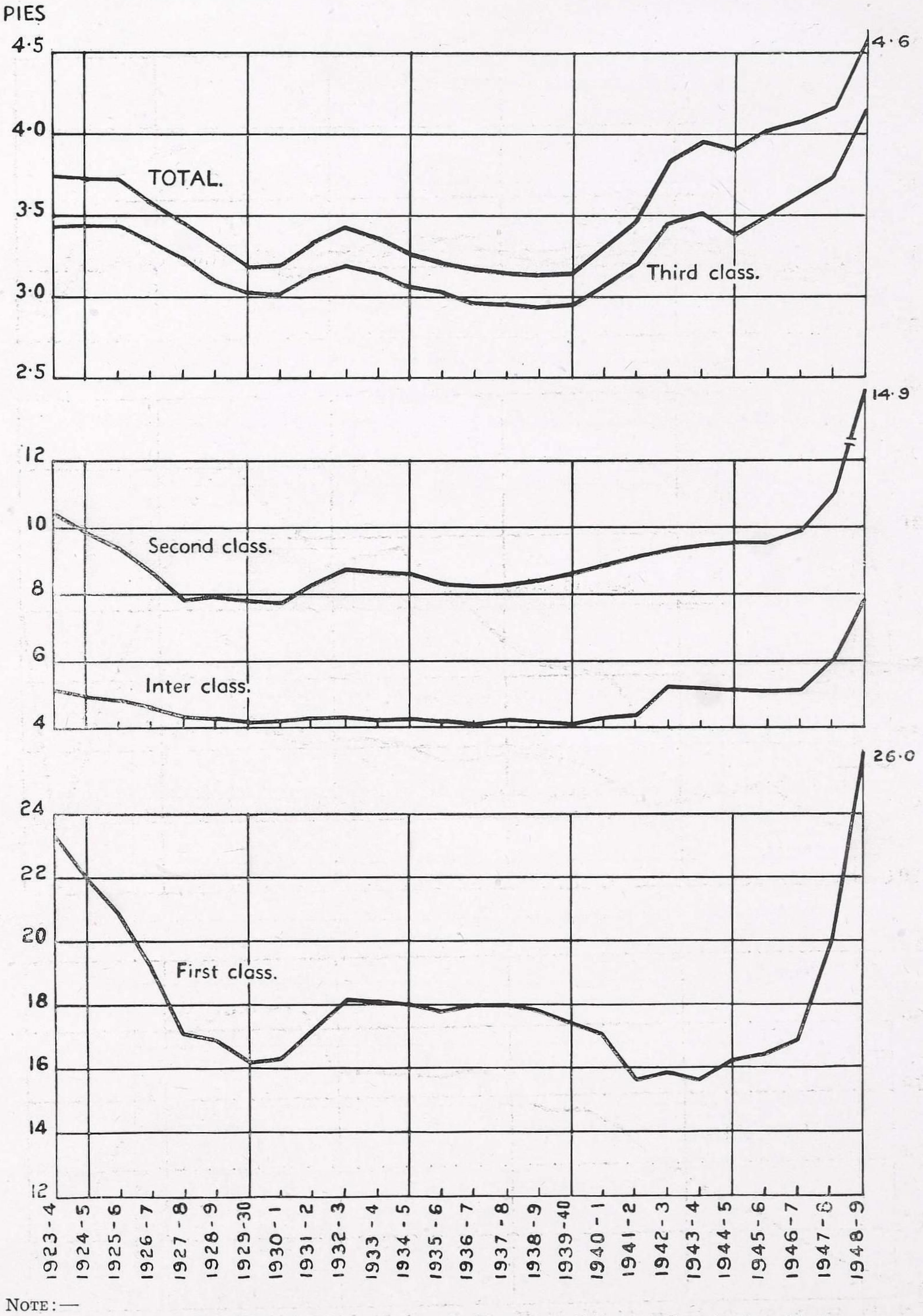
The figures by classes for 9 months up to December 1948 according to the old classes are combined as detailed below with the figures for 1-1-49 as noted below.

First class with air conditioned
Second class with Class I.
Inter class with Class II.
Third class with Class III.

AVERAGE RATE CHARGED PER PASSENGER PER MILE

ALL INDIAN RAILWAYS

(EXCLUDING BURMA RAILWAYS DURING 1923-4 TO 1936-7, N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)



NOTE:—

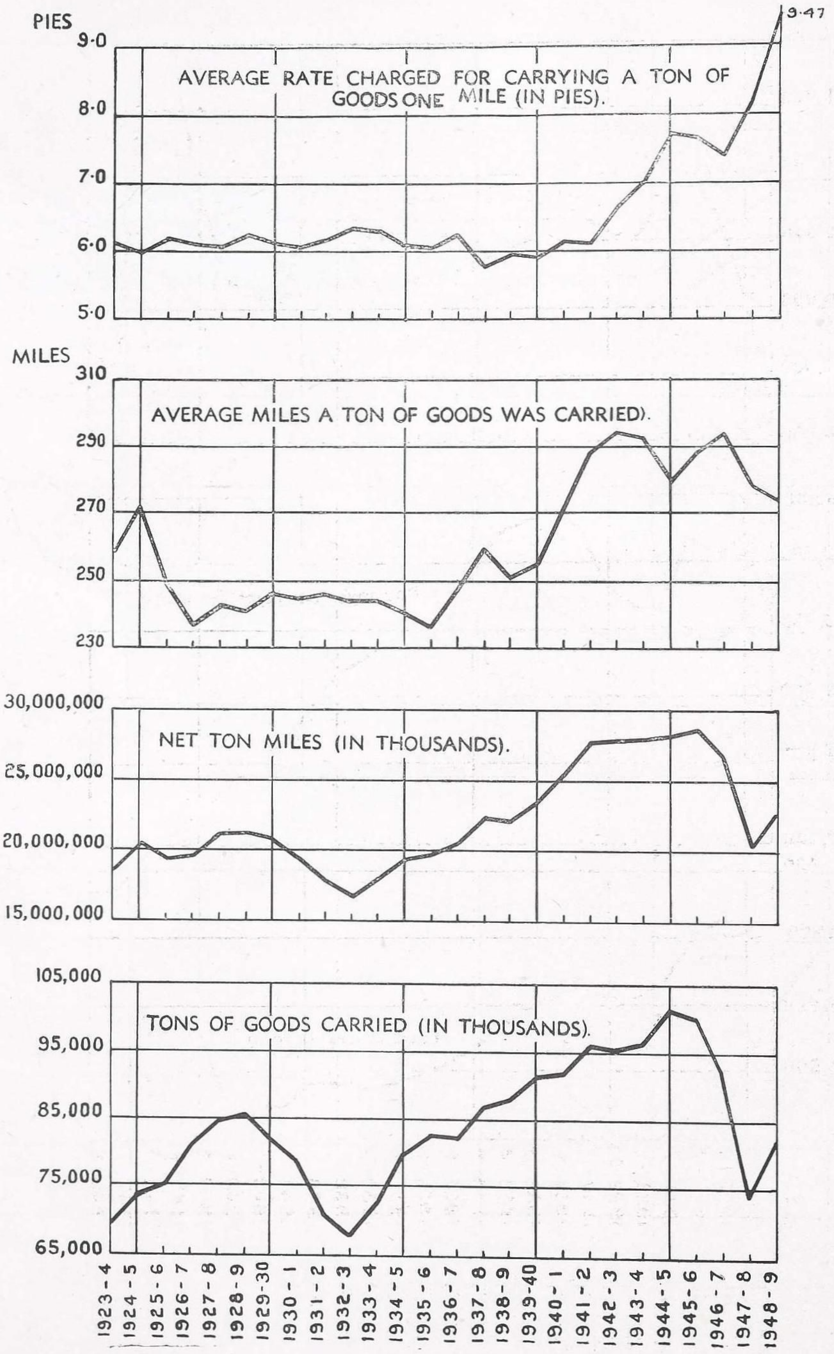
The figures by classes for 9 months up to December 1948 according to the old classes are combined as detailed below with the figures for 1-1-49 as noted below.

First class with air conditioned. Inter class with Class II.
Second class with Class I. Third class with Class III.

AVERAGE RATE, AVERAGE LEAD, NET TON MILES, TONS CARRIED

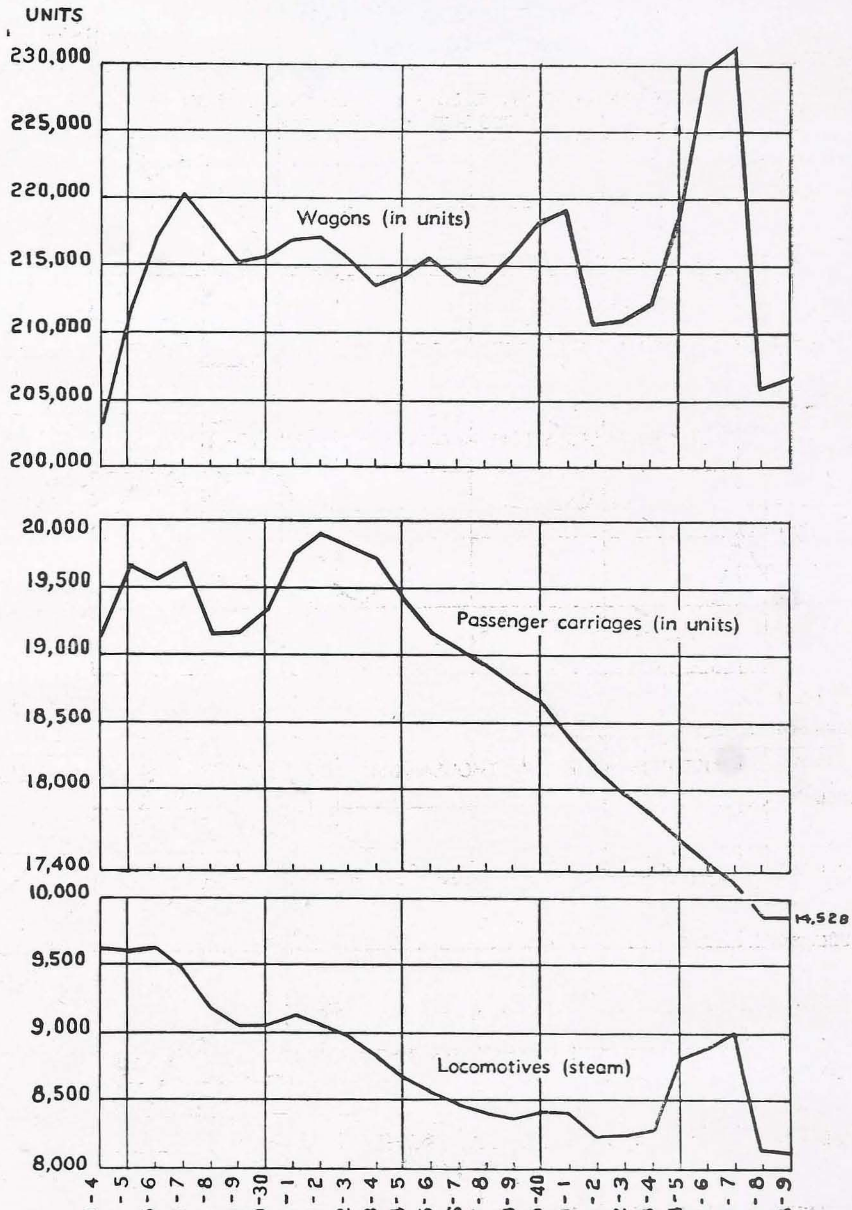
ALL INDIAN RAILWAYS

(EXCLUDING BURMA RAILWAYS DURING 1923-4 TO 1936-7, N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)



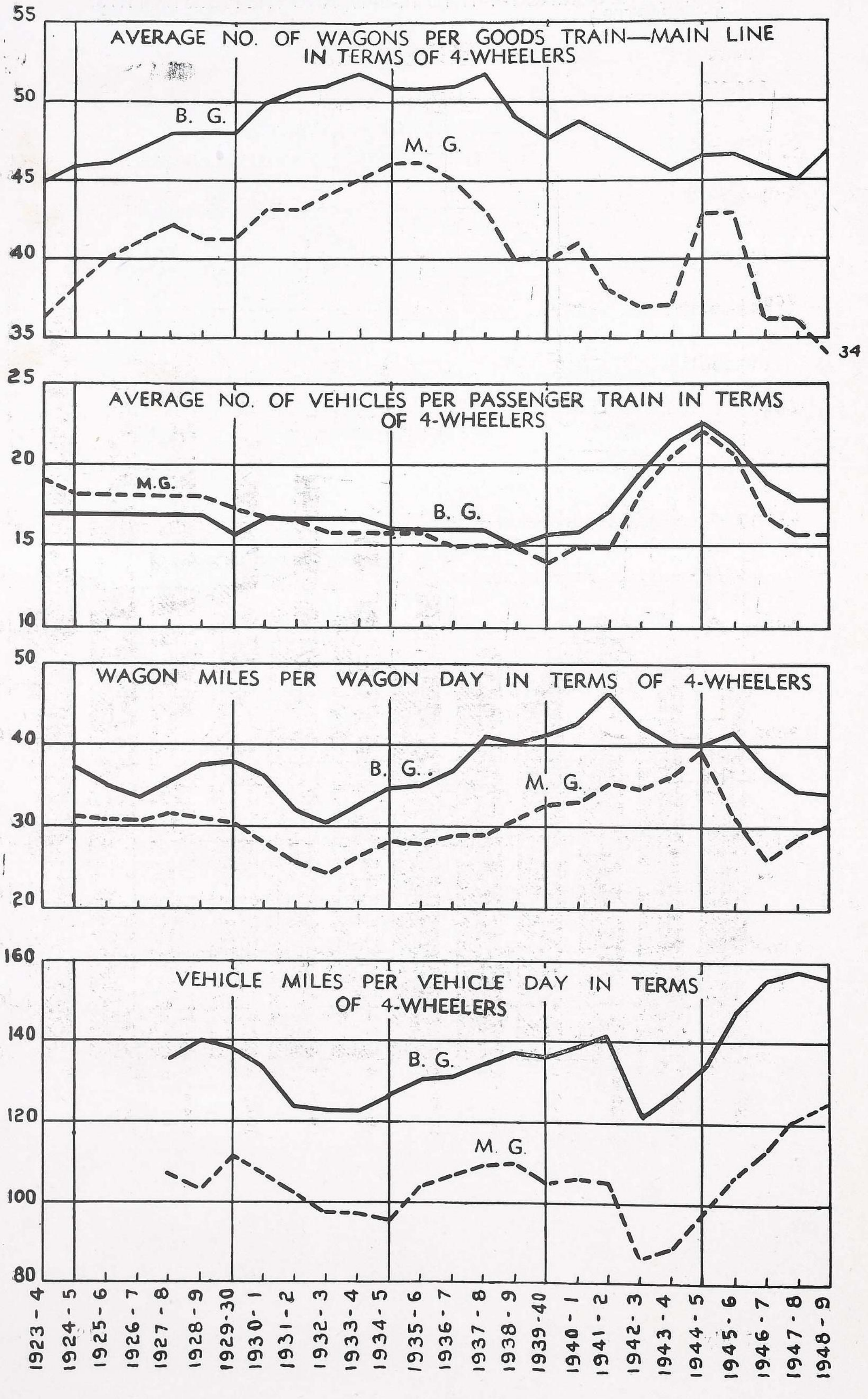
ROLLING-STOCK IN SERVICE INDIAN RAILWAYS

(EXCLUDING BURMA RAILWAYS DURING 1923-4 TO 1936-7, N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)



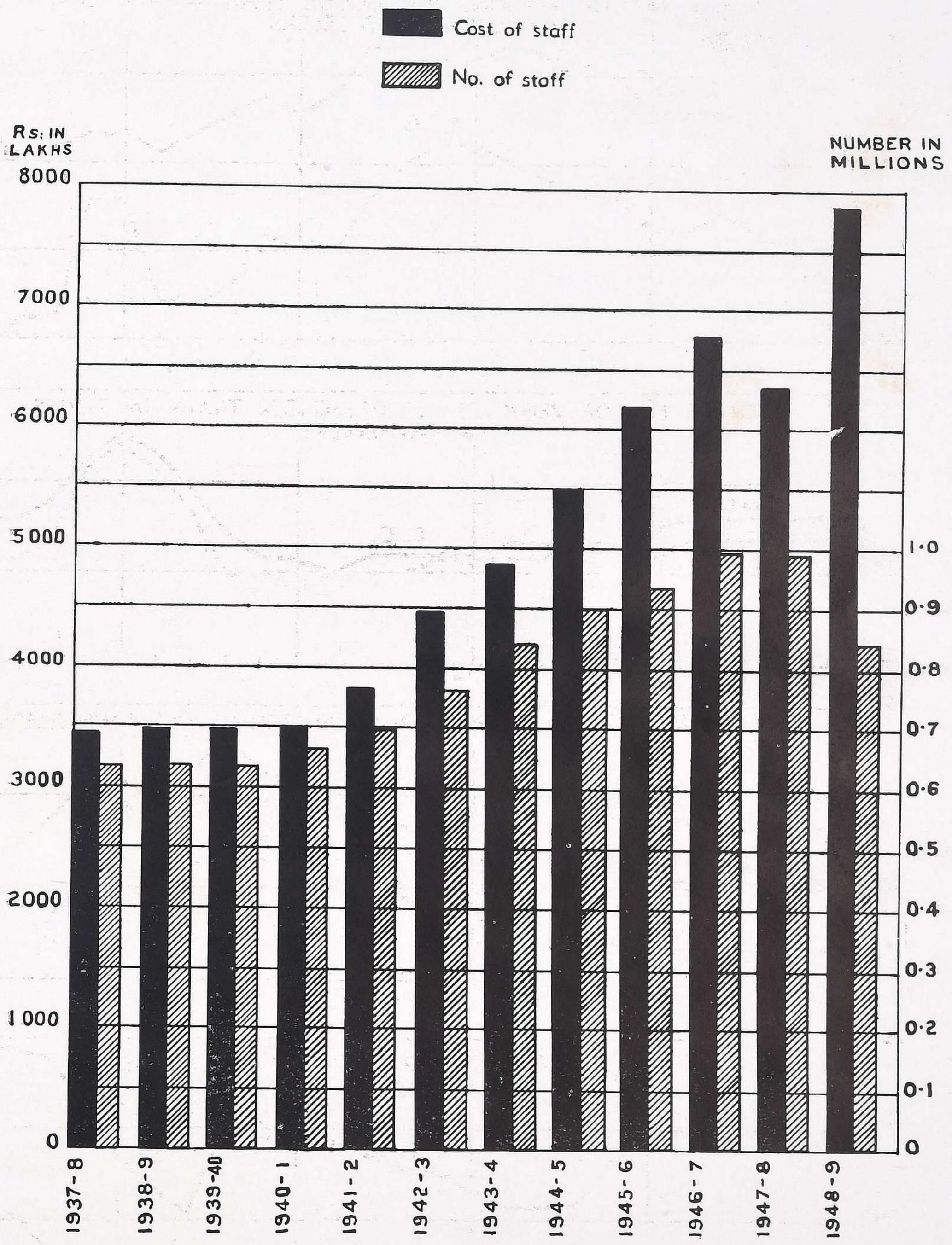
WAGON AND VEHICLE UTILIZATION, CLASS I RAILWAYS

(EXCLUDING N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)



TOTAL NUMBER AND COST OF STAFF INDIAN GOVERNMENT RAILWAYS

(EXCLUDING N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)



APPENDIX D.

Railway Administrations in India alphabetically arranged by Classes according to their gross earnings showing the working agencies, ownership, and route mileage open on 31 March 1949*.

Indian Railway systems have been classified under three Classes for statistical purposes—
Class I Railways with gross earnings of Rs. 50 lakhs and over a year.

Class II Railways with gross earnings of less than Rs. 50 lakhs a year, but exceeding Rs. 10 lakhs a year.

Class III Railways with gross earnings of Rs. 10 lakhs and under a year.

Railway system		Lines comprised in the system			Owned by
Name.	Worked by	Name	Gauge	Route mileage	
1	2	3	4	5	6
		Class I Railways.			
1. Assam	Indian Govt.	(a) Assam	3′-3⅜″	1,131	Indian Government.
		(b) Chaparmukh-Silghat‡	3′-3⅜″	51	Branch Line Company under guarantee terms.
		(c) Katakhal-Lalabazar‡	3′-3⅜″	24	Ditto.
		(d) Cooch-Behar State	3′-3⅜″	33	Indian State.
2. Bengal Nagpur.	Indian Govt.	(a) Bengal Nagpur	5′-6″	2,463	Indian Government.
		(b) Mayurbhanj	2′-6″	71	Branch Lines Company under rebate terms.
		(c) Parlakimedi Light	2′-6″	56	Private body.
		(d) Purulia-Ranchi	2′-6″	117	Indian Government.
		(e) Raipur-Dhamtari	2′-6″	55	Ditto.
		(f) Satpura	2′-6″	626	Ditto.
3. Bikaner State.	Indian State	(a) Bikaner State	3′-3⅜″	876	Indian State.
		(b) Nabha Section of the Sadulpur-Rewari Line	3′-3⅜″	7	Ditto.
4. Bombay, Baroda & Central India.	Indian Govt.	(a) Bombay, Baroda & Central India	5′-6″	1,198	Indian Government.
		(b) Nagda-Ujjain	5′-6″	35	Indian State.
		(c) Gaekwar's Petlad-Cambay (Anand-Tarapur Section)	5′-6″	21	Ditto.
		(d) Gaekwar's Petlad-Cambay (Tarapur-Cambay Section)	5′-6″	12	Ditto.
		(e) Bombay, Baroda & Central India	3′-3⅜″	1,968	Indian Government.
		(f) Palanpur State	3′-3⅜″	17	Indian State.
		(g) Champaner Shivrajpur-Pani Light	2′-6″	31	Indian Government.
		(h) Godhra-Lunawada	2′-6″	26	Ditto.
		(i) Nadiad Kapadvanj	2′-6″	28	Ditto.
		(j) Rajpipla State	2′-6″	58	Indian State.
		(k) Piplod-Devgad Baria	2′-6″	10	Ditto.

* No reclassification of Railways has been made after 1942 though earnings in many cases have exceeded the limits of gross earnings laid down for Class II or Class III railways.

‡ This line is guaranteed by the Government of India and also receives a subsidy from the Assam Government.

Railway system		Lines comprised in the system			Owned by
Name	Worked by	Name	Gauge	Route mileage	
1	2	3	4	5	6
		Class I Railways—contd.			
5. East Indian	Indian Govt.	(*a*) East Indian	5′-6″	4,357	Indian Government.
		(*b*) Kanpur-Barabanki & others	3′-3⅜″	6	Ditto.
		(*c*) Santipur-Nabadwip	2′-6″	17	Ditto.
6. Eastern Punjab.	Indian Govt.	(*a*) Eastern Punjab	5′-6″	1,483	Ditto.
		(*b*) Ludhiana-Dhuri-Jakhal	5′-6″	79	Indian State.
		(*c*) Rajpura-Bhatinda	5′-6″	108	Ditto.
		(*d*) Jind-Panipat	5′-6″	26	Ditto.
		(*e*) Sirhind Rupar	5′-6″	31	Ditto.
		(*f*) Rupar-Talaura*	5′-6″	34	Indian Government.
		(*g*) Kalka-Simla	2′-6″	60	Ditto.
		(*h*) Kangra Valley†	2′-6″	68	Ditto.
7. Great Indian Peninsula.	Indian Govt.	(*a*) Great Indian Peninsula	5′-6″	3,085	Ditto.
		(*b*) Bhopal-Itarsi	5′-6″	57	Jointly owned by Indian Government & Indian State.
		(*c*) Bhopal-Ujjain	5′-6″	115	Indian State.
		(*d*) Bina-Baran	5′-6″	147	Ditto.
		(*e*) Dhond-Baramati	2′-6″	27	Indian Government.
		(*f*) Ellichpur-Yeotmal	2′-6″	118	Branch Line Company under rebate terms.
		(*g*) Pachora-Jamner‡	2′-6″	35	Ditto.
		(*h*) Pulgaon-Arvi	2′-6″	22	Ditto.
		(*i*) Matheran (Hill) Light	2′-0″	13	Indian Government.
8. Jodhpur	Indian State.	Jodhpur	3′-3⅜″	807	Indian State.
9. Madras & Southern Mahratta.	Indian Govt.	(*a*) Madras and Southern Mahratta	5′-6″	1,091	Indian Government.
		(*b*) Kolar Gold field (M. S. Railway)	5′-6″	10	Indian State.
		(*c*) Tenali-Repalle	5′-6″	21	District Board.
		(*d*) Madras and Southern Mahratta	3′-3⅜″	1,712	Indian Government.
		(*e*) Alnavar-Dandeli (Provincial)	3′-3⅜″	19	Ditto.
		(*f*) Kolhapur State	3′-3⅜″	29	Indian State.
		(*g*) Sangli State	3′-3⅜″	5	Ditto.
		(*h*) West of India Portuguese	3′-3⅜″	51	Foreign Country.
10. Mysore State.	Indian State	(*a*) Mysore State	3′-3⅜″	609	Indian State.
		(*b*) Bangalore-Chik Ballapur Light	2′-6″	39	Ditto.
		(*c*) Kolar District§	2′-6″	64	Ditto.

* Jointly owned by the Government of India and Provincial Government (opened for passenger traffic on 9-10-1948.).

† Guaranteed by Provincial Government.

‡ Since purchased by the Government of India on 1 April 1949.

§ Jointly owned by the Mysore Government and Kolar District Board, and guaranteed by the Mysore Government for the District Board.

Railway system		Lines comprised in the system			Owned by
Name	Worked by	Name	Gauge	Route mileage	
1	2	3	4	5	6
		Class I Railways—concld.			
11. Nizam's State.	Indian State	(a) Nizam's State*	5′-6″	667	Indian State.
		(b) Bezwada Extension	5′-6″	22	Indian Government.
		(c) Nizam's State†	3′-3⅜″	671	Indian State.
		(d) Dronachellam-Kurnool	3′-3⅜″	36	Indian Government.
12. Oudh Tirhut.	Indian Govt.	(a) Oudh Tirhut‡	3′-3⅜″	3,088	Ditto.
		(b) Singabad (mile 35/1-2)-Godagari	3′-3⅜″	35	Foreign Country.
13. South Indian.	Indian Govt.	(a) South Indian	5′-6″	559	Indian Government.
		(b) Shoranur-Cochin	5′-6″	69	Indian State.
		(c) Cochin Harbour	5′-6″	4	Unassisted Company.
		(d) South Indian	3′-3⅜″	1,479	Indian Government.
		(e) Nilgiri	3′-3⅜″	29	Ditto.
		(f) Peralam-Karaikkal	3′-3⅜″	15	Foreign Country.
		(g) Pondicherry	3′-3⅜″	8	Ditto.
		(h) Tinnevelly-Tiruchendur	3′-3⅜″	38	District Board.
		(i) Travancore (Indian Govt. Section)	3′-3⅜″	51	Indian Government.
		(j) Travancore (Indian State Section) *including* Quilon Trivandrum Central Extension	3′-3⅜″	98	Jointly owned by Indian Govt. and Travancore Durbar (Indian State).
		Class II Railways§			
1. Barsi Light.	Barsi Light Rly. Co.	Barsi Light	2′-6″	203	Unassisted Company.
2. Darjeeling-Himalayan.	Indian Govt.	Darjeeling-Himalayan	2′-0″	94	Indian Government.
3. Gaekwar's Baroda. State.	Indian State	(a) Gaekwar's Baroda State	3′-3⅜″	308	Indian State.
		(b) Gaekwar's Baroda State	2′-6″	405	Ditto.
		(c) Bodeli Chhota Udaipur	2′-6″	23	Ditto.
4. Jaipur State.	Indian State	Jaipur State	3′-3⅜″	253	Ditto.
5. Saurashtra	Indian State	(a) Saurashtra	3′-3⅜″	1,097	Ditto.
		(b) Okhamandal	3′-3⅜″	37	Ditto.
		(c) Saurashtra Railway Tramway	2′-6″	140	Ditto.
6. Shahdara (Delhi)-Saharanpur Light	Shahdara (Delhi) Saharanpur Light Rly. Co.	Shahdara (Delhi)-Saharanpur Light ¶	2′-6″	93	Company subsidized by the Govt. of India.

* Includes Kazipet-Balharshah, Karepalli-Kothagudium and Vikarabad-Bidar and Extension Branches.

† Comprises of Hingoli Branch, Hyderabad-Godavery Valley, Parbhani-Purli, Secunderabad-Indian Frontier, Jankampet-Bodhan and Mudkhed-Himayatnagar Branches.

‡ Comprises of B. & N. W. Zone, R. & K. Zone, Mashrak-Thawe, Tirhut and B. A. Zone, etc.

§ Please see footnote '*' on page 101.

¶ Receives land only from Government.

Railway system		Lines comprised in the system			Owned by
Name	Worked by	Name	Gauge	Route mileage	
1	2	3	4	5	6
		*Class III Railways.**			
1. Ahmadpur-Katwa.	Ahmadpur-Katwa Rly. Co.	Ahmadpur-Katwa† . .	2′-6″	32	Branch Line Company under guarantee terms.
2. Arrah-Sasaram Light.	Arrah-Sasaram Light Rly. Co.	Arrah-Sasaram Light .	2′-6″	65	Company subsidized by District Board.
3. Bankura Damodar River.	Bankura-Damodar River Rly. Co.	Bankura-Damodar River† .	2′-6″	60	Branch Line Company under guarantee terms.
4. Baraset-Basirhat Light.	Baraset-Basirhat Light Rly. Co.	Baraset-Basirhat Light .	2′-6″	52	Company subsidized by District Board.
5. Bengal Provincial.	Bengal Provincial Rly. Co.	(a) Bengal Provincial .	2′-6″	33	Unassisted Company.
		(b) Dasghara-Jamalpurganj†	2′-6″	8	Branch Line Company under guarantee terms.
6. Bukhtiarpur-Bihar Light.	Bukhtiarpur-Bihar Light Rly. Co.	Bukhtiarpur-Bihar Light .	2′-6″	33	Company subsidized by District Board.
7. Burdwan Katwa.	Burdwan Katwa Rly. Co.	Burdwan Katwa† . .	2′-6″	32	Branch Line Company under guarantee terms
8. Cutch State.	Indian State	Cutch State . . .	2′-6″	72	Indian State.
9. Dehri-Rohtas Light.	Dehri-Rohtas Light Rly. Co.	Dehri-Rohtas Light . .	2′-6″	24	Company subsidized by District Board.
10. Dholpur State.	Indian State	Dholpur State . . .	2′-6″	55	Indian State.
11. Futwah-Islampur.	Futwah-Islampur Light Rly. Co.	Futwah-Islampur† . .	2′-6″	27	Branch Line Company under guarantee terms.
12. Howrah Amta Light.	Howrah-Amta Light Rly. Co.	Howrah-Amta Light .	2′-0″	44	Company subsidized by District Board.
13. Howrah Sheakhala Light.	Howrah-Sheakhala Light Rly. Co.	Howrah-Sheakhala Light .	2′-0″	20	Ditto.
14. Jagadhri Light.	Jagadhri Light Rly. Co.	Jagadhri Light . .	2′-0″	3	Uuassisted Company.
15. Kalighat Falta.	Kalighat Falta Rly. Co.	Kalighat-Falta† . .	2′-6″	26	Branch Line Company under guarantee terms.
16. Rajasthan State.	Indian State	Rajasthan State . .	3′-3⅜″	179	Indian State.
17. Scindia State.	Indian State	Scindia State . . .	2′-0″	294	Ditto.
18. Tezpore Balipara Light.	Tezpore Balipara Light Rly. Co.	Tezpore-Balipara Light .	2′-6″	20	Company subsidized by District Board.‡

* Please see footnote '*' on page 101.

† Guaranteed by the Government of India.

‡ Subsidy ceased with effect from 1914-5.

Books and Technical Papers published by the Railway Board.

BOOKS

(1) Report by the Railway Board on Indian Railways. Published yearly, Price: Volume I—Report, Rs. 5-2-0 or 8*sh*. Volume II, Rs. 14-0-0 or 22*sh*. (1947-8).

(2) Classified List of Establishment of Indian Government Railways and Distribution Return of Establishment of all Railways corrected up to 31 December 1948. Price Rs. 11-6-0.

(3) History of Indian Railways, constructed and in progress corrected up to 31 March 1945. Published sexennially. Price Rs. 9-2-0 or 14*sh*. 6*d*.

TECHNICAL PAPERS.

(4) Over 314 papers have been published by the Technical Section of the Railway Board's Office. The papers comprise:—

(*a*) Original descriptions of railway works and studies of railway problems in India and elsewhere.

(*b*) Reprints of articles from foreign engineering magazines.

(*c*) Reprints or abstracts of reports received by the Government of India on subjects connected with railways.

A complete list of the papers can be obtained *gratis* from the Chief Controller, Standardisation, Central Standards Office for Railways, New Delhi. A few of the more important Technical papers are mentioned below:—

Technical Paper.	*Name.*	*Author.*
No. 72.	The design of well foundations for bridges	(Compiled.)
" 148.	Statistics of Railway working expenditure	G. DEUCHARS.
" 153.	River training and control on the guide bank system	F. J. E. SPRING.
" 215.	The Hardinge Bridge over the Lower Ganges at Sara	SIR ROBERT GALES.
" 219.	Technical education in relation to railways in America	H. L. COLE.
" 239.	The Central Control systems for the scheduling of operations in locomotive repairs workshops in England	H. H. SAUNDERS.
" 242.	Railway Statistics and the Operating Officer	MAJOR F. H. BUDDEN.
" 243.	How to judge the prospects of new railways	LT.-COL. L. E. HOPKINS.
" 244.	Sleeper spacing and the effect of the new Permissible Axle-loads	A. F. HARVEY.
" 245.	Report of the Indian Railway Bridge Committee on track stresses	
" 247.	1st and 2nd interim reports of the Indian Railway Bridge Committee on Impact and Revision of the Bridge rules	
" 249.	Operating Statistics and the Divisional Officer	MAJOR F. H. BUDDEN.
" 250.	Axle-loads, Wheel Diameter and railheads dimensions	
" 251.	A. R. E. and maintenance of Way Association's Impact tests on Railway Bridges	(Reprinted.)
	Description of the planning, Progress, Coaling and Engine Repairs, Schedule System introduced to the G. I. P. Railway Loco. Shops at Parel	F. G. S. MARTIN.
" 256.	Notes on the preparation of railway projects	H. L. GLASS.
" 259.	The estimation of Passenger earnings on new projects	A. LINES.
" 261.	Tube wells on the N. W. Railway, 1925-27	J. WARDON.
" 262.	Note on steps to be taken to permit of running the future large vehicles on Broad Gauge Railways, 1927	A. I. SLIEGH.
" 263.	Note on composite Index numbers of Indian Railways	W. G. BARNETT.
" 264.	Memorandum on Traffic Surveys	R. N. NICOLLS.
" 266.	Principle of the Absolute Block System, 1929	L. H. KIRKNESS.
" 267.	Flood Lighting, 1929	H. J. MULLENEUX.
" 271.	Antiseptic treatment of Pinus Longifolia (Chir) for Railway Sleepers	KAMESAM.
" 272.	The Stereographic Survey of the Shakagam	MAJOR KENNETH MASON (Reprint.)
" 273.	A Schedule system for the Control of Operations in Workshops, 1929	H. H. SAUNDERS.
" 275.	An Enquiry into the Preparation of Periodic Financial Returns on the Railways of Great Britain, Egypt, and Palestine, 1929	MAJOR WAGSTAFF.
" 276.	Investigation into the Strength of Rail joints	H. HOWE AND L. H. SWAIN.
" 277.	Description of the Cost Accounting Scheme introduced in the Locomotive Workshops at Moghalpura	A. E. HOWELL.
" 278.	Notes on Tube Railway Construction	H. G. SALMOND.
" 279.	Report on Track Practice on American and Canadian Railways	A. F. HARVEY.
" 280.	The Installation of a Production system in the Locomotive Workshops at Moghalpura	A. E. HOWELL.
" 281.	The Belt System of Repairs introduced in the Loco. Workshops at Kanchrapara	R. DE VERAIRWIN AND J. R. POTTER.
" 282.	Note on "Fridera" a composition for reconditioning abraised spike holes in Railway Sleepers	S. KRISHNA AND T. P. GHOSE.
" 283.	Description of a system introduced in the Stores Department of E. I. Railway with appendices	F. G. S. MARTIN AND A. R. A. HARE DUKE.

Technical Paper.	*Name.*	*Author.*
No. 284.	Notes on progressive system of wagon repairs as introduced in N. W. R. shops at Moghalpura	B. S. SINDHU.
„ 285.	Notes on the methods by which the provisions in the English Railway Act of 1921 were framed both from the points of view of the Railway Coys. and of Work—the compilers of the Act . .	E. A. SIMS.
„ 286.	Stresses in Fishplates for 90 lbs. Rails (with conclusions affecting the design of standard rail and fishplate sections)	A. M. SIMS .
„ 287.	Report on Oil Burners and Wicks for Signal Lamps . . .	H. E. COX.
„ 288.	G. I. P. Railway Dynamometer Car, Report No. 11, Train Resistance	C. W. CLARKE.
„ 289.	The Hump Yard in India	MAJOR H. W. WAGSTAFF.
„ 290.	The Indian Railway Rates' Structure. The case for its simplification. Its existing shortcomings and suggested principles as a basis for its revision	A. W. BECKETT.
„ 291.	Controlled Concrete	A. W. CRIPS VILLIERS.
„ 292.	Hints on the Construction of a Railway in the plains with special reference to Bengal	K. B. RAY.
„ 293.	Simplified Design of Masonry Arch by Elastic Theory . . .	A. VASUDEVAN.
„ 294.	Frame Arch Spans for Railway Loadings	H. J. NICHOLAS.
„ 295.	The Hallade Track Recorder and Hints on the Maintenance of Curves	(Reprint.)
„ 296.	Paint Flaking on Railway Carriages	H. M. R. MORSE.
„ 297.	The Maximum Length of Rails as affected by the range of temperature and the design of Rail Joints	A. M. SIMS.
„ 298.	Cost Accounting in English and Indian Railway Workshops . .	S. V. IYER.
„ 299.	The determination of the permissible speed on Curves . . .	E. PROCTER.
„ 300.	Report on investigation into modern methods of introducing Transition Curves economically into existing lines of Railway .	R. H. MARTIN.
„ 301.	Note on Reconditioning of Curves	R. STRICK.
„ 302.	The Coach Painters Handbook and Guide	T. VILLIERS.
„ 303.	Wear of Rails on curves and check rails clearances required on curves of 4″ and sharper	A. M. SIMS.
„ 304.	Description of the method of Locomotive Repair as carried out in the Kharagpur Workshops of the Bengal Nagpur Railway . .	L. G. BAILEY.
„ 305.	Primary Stresses in Railway Tracks	W. E. GELSON.
„ 306.	Creosoted Wooden Railway Sleepers (Ties) in India and elsewhere .	C. W. SCOTT.
„ 307.	Earthquake Reconstruction on Quetta (Railway) Division, 1936-40 .	R. O. C. THOMSON.
„ 308.	Braking Distances of Metre Gauge Trains	E. W. BAKER.
„ 309.	The Section and Armour of a Guide Bank for the Training and Control of the Great Alluvial Rivers	K. B. RAY.
„ 310.	The Heat Treatment of Steel and Iron with Notes on Cemented Carbide Tools	C. W. CLARKE.
„ 311.	Diesel Locomotives and Railcars, their development and suitability with special reference to their future in railway traction in India and post-war reconstruction	P. R. AGARWAL.
„ 312.	The Steel User's Guide, Part I, Constructional Steels	C. W. CLARKE.
„ 313.	Approximate Method for Calculating the Deflection of Beams . .	D. S. DESAI.
„ 314.	Technology of Heat Treatment of Steel	C. W. CLARKE.
„ 315.	Technology of the Founding of High-Duty Cast Irons . . .	C. W. CLARKE.
„ 316.	Curve Realignment on the East Indian Railway	J. M. FENTON.
„ 317.	Control of Railway Traffic Operations by Telephone and Teleprinter	H. L. CARTER.
„ 318.	History of the Hardinge Bridge	T. N. S. RAO.
„ 319.	The manufacture of Locomotives in India	P. R. AGARWAL.
„ 320.	Investigation into the cause of cyclic wear of Rails on the Great Indian Peninsula Railway by the Electric Suburban Stock, and the remedies found necessary	E. C. B. THORNTON.

The prices of the papers vary from annas three to rupees fifteen.

The books and papers can be bought from the Manager of Publications, Delhi.

MGIPC—L—107 Rly (PD) - 19-12-49—1,500.